

TRANSACTIONS

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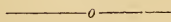
OF THE

GUERNSEY

SOCIETY OF NATURAL SCIENCE

AND

LOCAL RESEARCH.



VOLUME VII.—1913-1916.



Guernsey :

RICHARD'S PRINTING AND PUBLISHING COMPANY, LTD.,

BORDAGE STREET.

1917.

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- 1891—Aikman, Dr., M.D., C.M., L.R.C.S. Queen's Road.
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- 1899—Cromartie, Mr. D. B. Le Tarlat, Câtel Road.
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- 1912—Le Messurier, Mr. H. C. Beauséant, St. Martin's Road.
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- 1912—Le Pelley, Mr. H. City & Midland Bank, High Street.
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- 1913—Molesworth, Hon. C. R. Dunlery, Ville-au-Roi.
- 1908—Moon, Miss A. Les Fontaines, King's Road.
- 1913—Moon, Mr. J. A. Les Fontaines, King's Road.

* Junior Members.

- 1913—Moon, Mrs. J. A. Les Fontaines, King's Road.
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 1907—Nicolle, Mr. E. T. 3, Norfolk Terrace, Jersey.
 1899—Penfold, Rev. J. B. V. Beaumont, Cambridge Park.
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 gow) 1, Queen's Road.
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 Ozanne, Miss C. St. Martin's Rectory.
 Rolleston, Mr. W., M.A. Elizabeth College.
 Stonehouse, Mr. W. c/o Manuelle & Co., St. Sampson's.

JUNIOR MEMBER (1914).

- Parkes, Mr. J. W. Elizabeth College.

TRANSACTIONS OF THE SOCIETY.



THE Tenth Annual Soirée was held on February 12th, 1913, at the Guille-Allès Library. There was a good attendance, and the short Lectures, as well as the various items of vocal and instrumental music, were much enjoyed by a very appreciative audience. The President, in his opening remarks, explained briefly the object and aims of the Society, expressed his gratification at its increasing numbers, but deplored the absence of really active members. He thanked the ladies and gentlemen who had kindly come forward to provide the evening's entertainment. The lectures were: "River Sculpture," by Mr. J. P. Warren, B.Sc., "Stories and Pictures of Ancient Greece," by Miss Mellish, M.A., and "Creatures of other Days," by Mr. F. L. Tanner, F.Z.S. All these were illustrated by means of the Electric Lantern.

Monthly Meeting, March 12th, 1913, the President, Mr. F. L. Tanner, in the chair.

Dr. H. Creswell and Miss M. Tourtel were elected members of the Society.

Mr. Tanner exhibited a specimen of *Lucernurea campanulata*. Ansted records this as being found in Guernsey, but this record is not considered trustworthy.

An animated discussion on the papers dealing with the Megalithic structures at L'Islet read before the Society in November last, occupied the whole of the evening.

The first Excursion of the Season took place on Saturday, 12th April, to the newly-discovered dolmen at L'Islet. The weather was cold and wet, notwithstanding there was a large attendance. This interesting Dolmen is fully described, with illustrations, in the Society's *Transactions* of 1912.

The second Summer Excursion took place on Thursday, May 29th, after having been postponed from May 15th owing to wet weather.

About 15 members and friends were present.

Dr. B. Cn. O'Reilly, Mr. F. J. Clarke and Edmund Butler were proposed as members and elected.

A start was made at George-road at 2.30 where Mr. Collenette pointed out the brick earth which overlies all that part of the island, showing glacial action. The party afterwards proceeded along the Fort-road, and the lowering of the fields adjoining due to the clay being used for the making of the bricks for the Fort, was pointed out by Mr. Collenette. The members then proceeded to Fermain Bay, where the continuation of the clay deposit was followed, and at the northern point of the Bay, two raised beaches, one immediately over the other, were pointed out. The party next embarked in a boat provided by one of the members, Mr. H. C. Le Messurier, and inspected the coast-line as far as Divette, visiting the "Marble Caves" on the way. At Divette, Mr. Collenette drew attention to various objects of geological interest in the deposits there.

The third Summer Excursion was held on June 21st, when about 30 members took part.

The recently-discovered submerged beach at Vazon was first visited and was explained by Mr. A. Collenette. The Creux ès Fées at Houmet was next seen. It was explored for some 60 or 70 feet by the members, but further progress was stopped by large boulders. It was, however, seen that it extended much further inland. The party afterwards crossed Vazon Bay to Le Crocq where the Menhir and Kitchen Midden were examined, as well as the 25 foot beach on which the Kitchen Midden is. After this the party adjourned to tea at Richmond Fort Picnic House, and later returned to Town by brake.

The following lady and gentlemen were elected members : Mr. and Mrs. J. A. Moon, Les Fontaines, King's-road ; Rev. A. G. Le Masurier, St. Matthew's, Cobo.

AN EXCURSION TO HERM.

The excursion to Herm on July 10th was one of the most successful yet held. A hundred members of the Society and friends left the White Rock in the *Alert* shortly before 3 o'clock, and after a pleasant crossing of the Little Russel were landed by the ship's boats at the Rosière steps. The first to land was the Hon. Sec. of the Society, Mr. S. Carey

Curtis, who was met by Count Lothair Blücher von Wahlstatt, in the absence from the island of the Prince.

Permission to explore the island had been granted by the lessees of Herm, the Westbank-Liegnitz, and the Prince courteously threw open his grounds to the visitors and permitted them to enter the enclosure where a number of kangaroos are kept.

Immediately after landing the whole party walked to the common near the Shell Beach, where there are the scattered stones of several dolmens. These were all excavated by Mr. William Lukis in the forties of the last century and some of the stones have been removed, probably to be broken up for building. Mr. Carey Curtis had plans of the dolmens, made from the available data, and pointed out the positions of the dolmens. The party afterwards broke up, some going to the Shell Beach, while others explored different parts of the island. It should be noted that the Shell Beach does not consist only of dead shells, although these are to be found in great numbers, for the shores of Herm surpass any other locality in the Channel Islands in the rarity and variety of their living mollusca.

Mr. A. Collenette and the Geological Section visited parts of the coast not previously surveyed by the Society and discovered traces of a raised beach at the 25 feet level, and less positive evidence of another beach at a higher level.

After tea, at the cottage below the Prince's house and grounds, many of the party visited the grounds.

The ancient chapel, believed to be all that remains of the Franciscan monastery that existed on Herm five or six hundred years ago, is being restored by the Prince for use as a private chapel. For some years the building has been used as a laundry. It corresponds in age with St. Sampson's and the Vale Churches. This ancient chapel was dedicated to St. Tudwal, who lived in the fifth century. The chapel is rather peculiar in construction, consisting of a nave and north transept or porch, jutting out from the east end of the main structure, which is about 35 feet in length. Occupants of the nave would not be visible to occupants of the transept. Probably one part was used by the monks and the other by lay members of the congregation. On the south side was a narrow door about six feet high.

The party re-embarked at Rosière, being seen off by the Count and Countess, and the short run across the Russel brought the party to the Albert Pier at 8 o'clock after a most enjoyable excursion.

The following ladies and gentlemen were elected as members: Miss E. M. Durand and Miss F. M. de la C. Durand, The Villa, Grange; Hon. C. R. Molesworth, Dunlery, Ville-au-Roi.

A VISIT TO ST. SAVIOUR'S.

St. Saviour's is the most unspoiled parish in Guernsey. It is a parish of twisting hills and undulating valleys, a parish which has not been invaded by the grower. There are few glasshouses to spoil its sylvan beauty. On Saturday, July 26th, a number of members of the Guernsey Society of Natural Science drove or cycled out to St. Saviour's, making the Parish Church their first objective.

First of all the Church plate was exhibited. Mr. S. Carey Curtis, the Hon. Secretary, pointed out that St. Saviour's is now the only Guernsey church with the full set of silver plate, chalice, ewer, and paten all of the same pattern, such as could be found in the Guernsey churches at the beginning of the eighteenth century.

The set at the Castel has been broken by the theft that took place there some time ago. At the Forest the ewer has been melted down to make a more modern looking article. The pieces of plate in the St. Saviour's set are all dated 1699. The stem of the chalice is shaped like a stair baluster. Hammer marks are visible on the beaten silver, and the vessels are, said Mr. Carey Curtis, most probably of local make.

The ewer was not intended to contain wine as at present, but was for use at baptisms. The one stolen at the Castel bore an inscription stating that it was for the baptism of infants. Mr. Carey Curtis also showed a huge flagon, dated 1734, which is kept in an ancient case made of wood, covered with leather. It would hold five quarts, and is the largest of its kind in the island.

The Rector of St. Saviour's, the Rev. I. Bibby, said that this large flagon is occasionally used when the other is out of order. Mr. Bibby showed the visitors the old registers of the church. One of these old manuscript books contains the ancient "Dedicaces des Églises," the authenticity of which is not nowadays accepted. Mr. Bibby said that this copy in the St. Saviour's Church register is the only manuscript one now in existence. From it the printed copies were made. The book in which it is written also contains a poem, written presumably by the priest during the time of the Reformation, deploring the happenings in the Church at that time, and

another poem deals with the Spanish Armada. Mr. Bibby pointed out that the registers go back to 1587. He thought it a pity that some public authority did not have them copied, as had been done with similar ancient documents in Jersey.

The leather offertory cups, the only ones of the kind in use in the island, were shown by Mr. Bibby, as well as some of the old cannon balls still kept in the church under a seat, relics of the time when each church was used for the storage of the parish cannon and ammunition. Mr. Bibby said that he had seen a plan on which a place for a gun was shown at the Hougue Fouque. There were possibly people who could still remember the gun being fired in the churchyard on special occasions. The small building at the north-eastern end of the Church was, he thought, built to accommodate the cannon. Mr. Carey Curtis said he thought this was formerly a chancel house.

The building of the Church in three parts, as indicated by the arches and pillars, was explained by Mr. Carey Curtis, and the tracery of the windows discussed. An old chantry chapel on the south side is now used as a vestry. Attention was also drawn to the ancient "tronc" or poor box.

Most of the members of the party afterwards ascended the stone spiral stair to the top of the tower, which is one of the finest church towers in Guernsey. The three bells are dated 1680.

The crosses on the gables of St. Saviour's Church are said to be the only ones that were not knocked off at the time of the Reformation.

In the churchyard an inspection was made of the cist found covered with earth about twenty years ago and set up alongside the wall. The visitors were also shown the three stones on which the principals of one of the ancient fief courts sat when these assemblies were held.

After leaving the Church the party, under the direction of Mr. Collenette, walked through the valley and to the top of some of the hills. Mr. Collenette pointed out the evidences of glaciation in the shape of the valleys and the smoothing of the stone outcrops on the hills. He also drew attention to the fact that when a level of three hundred feet above the sea is reached here the land will be found to be flat, pointing out this phenomenon in a large field at the highest level reached. Mr. Collenette on this and other points spoke instructively of the geology of Guernsey.

After an excellent tea at Durman's the party drove or cycled back to town.

Monthly Meeting, Wednesday, October 15th, the President, Mr. F. L. Tanner, in the chair.

Mr. A. Collenette gave an address on the Geological and Anthropological Results of the Summer Excursions. The paper was illustrated by numerous specimens and lantern slides. It will be found in another part of this volume.

Monthly Meeting, Wednesday, November 19th, the President, Mr. F. L. Tanner, in the chair.

Professor R. R. Marett, Miss Best, Messrs. W. Stonehouse, A. J. F. Gibbons and W. Rolleston, M.A., were elected members of the Society.

Mons. Metman exhibited a number of beautifully mounted specimens of Guernsey seaweeds.

THE CHURCH PLATE OF GUERNSEY.

Mr. S. Carey Curtis then read a paper on the Church Plate of Guernsey in the course of which he described the plate of the Town Church, St. Sampson's, Castel, St. Saviour's, St. Peter's and the Forest. Mr. Curtis alluded to the various periods in the history of the Church and the effects of the Reformation. There was uniformity in the design of some of the older pieces of plate, which were of local or French workmanship as a rule. He had discovered no less than twenty marks that were neither English nor French, indicating that there was a considerable silver industry in Guernsey at one time. The oldest piece of plate, dated 1525, was in St. Sampson's Church. This ancient cup was shown on the screen and described as of Tudor design, the two earlier forms having been Gothic and Norman. Many of the pieces of plate in the churches had been gifts, and some of the jugs and dishes seemed to have originally been made for domestic use. One of the most important pieces of plate was the ampulla in the Town Church, given to the Church in 1906 by the Rev. Stevens Guille, in whose family it had been for many years. It is pre-Reformation, but Mr. Curtis expressed doubt as to whether it had ever been used at the Chapel of St. Appoline, although it bore the letter A. The photograph of the Castel plate was one taken before the robbery early in the year. The cups both bore local marks. The flagon was a counterpart of one in Grouville Church, Jersey. The plate at St. Saviour's was all old, the isolation of the parish accounting to some extent for the fact that it had not been

seized with a desire, so common in the other parishes, to melt down the old plate and replace it by modern. The plate was typical of that used in all the parishes immediately after the Presbyterian regime. The cups bore the date 1699 and the most recent date on any of the plate was 1734. At St. Peter's the plate was partly old, partly modern, some of the old having been melted down in 1831. At the Forest the plate was all of the eighteenth century or earlier. One of the inscriptions included the words (in French), the "parish of the Trinity of the Forest." Mr. Curtis said that his next paper would deal with the plate at St. Andrew's, Torteval, the Vale, St. Martin's, and Sark. The old plate at St. Martin's had all been melted down and replaced by modern, as had been done at the Town Church.

Col. de Guérin spoke in praise of the paper read by Mr. Curtis and remarked that the Forest parish is described in many old contracts as the parish of the Trinity of the Forest.

In response to a request, the Rev. B. de la Rogerie described a Spanish chalice at St. Joseph's Church. It was not very old, but it was one of the interesting pieces of Church plate in the island.

After some further discussion, a vote of thanks was given to Mr. Curtis, and the meeting terminated.

This paper will be found printed in extenso in the *Transactions*.

The Thirty-first Annual Meeting of the Society was held on Wednesday, Dec. 10th, the President, Mr. F. L. Tanner, in the chair.

Mr. J. W. Parkes was elected a junior member.

Mr. R. Metman read the report of the Botanical Section, and exhibited mounted specimens of ferns and grasses.

Mr. C. G. de la Mare read the report of the Geological Section. Some discussion followed on the properties of blue clay, the existence of which in various parts of the island led Mr. Collenette to consider that the island had been completely submerged at some time.

The report of the Marine Zoological Section was read by Mr. F. L. Tanner, in the course of which he described the habits of some occupants of his aquarium.

The report of the Ornithological Section was read by Mr. B. T. Rowswell.

The Council's report was read by Mr. Carey Curtis, who described the find at St. Sampson's Church of pre-Reformation

relics and the cists found at Les Vardes, and other similar work done by the Society.

The chairman suggested that there should be an Antiquarian Section, in order that reports of antiquarian research should not be included with the Council's report.

This suggestion was adopted and Mr. Carey Curtis was elected first Secretary of the Antiquarian Section.

Mr. C. G. de la Mare read the Treasurer's report, showing that there was a substantial balance in hand, and a small balance in the Archæological Research funds.

Mr. Carey Curtis was re-elected Hon. Secretary, and Mr. C. G. de la Mare Hon. Treasurer.

The following members of Committee were re-elected: Mr. A. Bescoby, the Rev. F. E. Lowe, Miss Mellish, Mr. J. Linwood Pitts, Mr. B. T. Rowswell. Mr. R. Metman was elected to replace Miss Brown, who is leaving the island.

Monthly Meeting, January 28th, 1914, the President, Mr. F. L. Tanner, in the chair.

Miss C. Ozanne was elected a member of the Society.

Rev. Bourde de la Rogerie exhibited a flint implement recently found in the Canichers. Col. de Guérin and Mr. Collenette both considered it paleolithic.

The Church Ornaments discovered in St. Sampson's Church last June were exhibited and described by Mr. Carey Curtis, who said their intrinsic value is small, though as genuine ornaments they were valuable. Col. de Guérin considered the relics were hidden where they were found between the years 1559 and 1564.

Mr. Collenette then read papers on the Rainfall and Sunshine of 1913. As far as rainfall is concerned, 1913 was an average year, for the total fall was only 0.39 in. below the average for 71 years, the total amount registered being 36.14 inches. With regard to sunshine, 1913 was a very gloomy year in Guernsey, in fact the gloomiest for the past 20 years, during which period only records have been taken. The average number of hours' sunshine annually up to 1912 was 1,925; in 1912 it fell to 1,704 hours, and in 1913 there was a further drop to 1,691 hours.

Both papers, which appear further on in this volume, were illustrated by numerous diagrams.

Report of the Council, 1913.

The interest in the Society has been well maintained during the past year. The excursions and meetings have been well attended, but more workers are required, especially in some of the lesser known spheres of the Society's work, such as Marine Biology, which presents an extensive and almost unworked field of enterprise. In the Entomological and Botanical Sections more workers are needed, though it is obvious that as years roll on, the new species and genera to be discovered are getting fewer, still new habitats and other interesting data for those already known, may be found and recorded.

The first outdoor excursion was held at L'Islet on April 12th, when the new dolmen at that place was examined after its excavation and explained by members who took part in it.

The second excursion took place on May 29th, after having been postponed from May 15th on account of wet weather, and was of a geological nature. The brick earth at George Road and along the Fort Road was examined and Mr. A. Collenette pointed out a field in the latter which had been lowered several feet to obtain the earth out of which the bricks to build Fort George had been obtained. At Fermain Bay, two raised beaches, one immediately over the other, were shown, and afterwards the party embarked in a boat provided by Mr. H. C. Le Messurier, one of the members, and visited the Marble Caves, and thence to Divette, where Mr. Collenette explained the various objects of geological interest there.

The third excursion on June 21st was to the Creux es Fées at Houmet, Vazon Bay and Richmond. The cave reported to extend to St. Saviour's Church was first explored, but was found to be blocked up by large stones about 100 yards from the entrance, and it was generally agreed that the continuation to St. Saviour's Church was impossible. At Vazon Bay a submerged beach was shown, and the party crossed the bay to Richmond to examine the midden at the Point du Crocq, and a possible site of a dolmen was pointed out.

The fourth and most successful excursion was held on July 10th to Herm, which, by the kindness of the West Bank, Liegnitz, was thrown open to general inspection. The Dolmens and Kists on the plain near the Monceau were examined, but the ravages of time had rendered them almost indistinguishable. The Geological Section visited the western

part of the island, and a raised beach of the 25 foot series, not previously known, was found. The Conchologists visited the shell beach. The ancient Chapel of St. Tudwal was also shown to the members, and from the repairs then taking place, it was apparently to be used for its original purpose in the near future.

The fifth excursion took place on July 26th, by a visit to St. Saviour's Church and the St. Saviour's Valley. The Church plate was shown and also the registers, by the Rector, the Rev. I. H. Bibby, and the belfry with its three bells, dated 1680, was ascended, the fine view from the top being generally admired. The Geological and Botanical Sections afterwards proceeded through the Valley, and examined the various points of interest.

No excursions took place during August and September owing to counter attractions.

Papers were read during the Indoor Sessions on the "Geological Results of the Summer Excursions," by Mr. A. Collenette; on the "Church Plate of the Deanery of Guernsey, part I.," by Mr. S. Carey Curtis, and on the "Rainfall and Sunshine of 1913," by Mr. A. Collenette, which will be found *in extenso* in the *Transactions*.

At the Annual General Meeting of the Society on December 10th, the various Sectional Reports were read by the Secretaries, and also the Treasurer's Report, which showed the Society was in a prosperous financial position. It was decided to re-form the Antiquarian Section, and Mr. S. C. Curtis was appointed Hon. Secretary, and the report appears this year for the first time after a lapse of many years.

MEMBERSHIP.

The year opened with 96 members, and we close it with 113, the largest membership in the life of the Society.

OBITUARY.

Our only loss by death has been Capt. Le Cocq, of Beau Séjour. Though not having taken an active part in the work of the Society, he always took a keen interest in any new discoveries.

The following additions have been made to the Society's Library during the year :—

From La Société Jersiaise, Jersey :—

Journal de Jean Chevalier. 8me. Fascicule. Trentehuitième Bulletin Annuel, 1913.

From the Société d'Archéologie d'Avranchus et de Mortain :—

Revue de l'Avranchin. Bulletin Semestriel Année 1913. No. 3.

From the Laboratoire Maritime de Concarneau :—

Travaux Scientifiques du Laboratoire de Zoologie et de Physiologie Maritimes de Concarneau. Tome IV. (Fasc. 3 to 8), 1912.

From the United States of America :—

Cincinnati, Ohio, Lloyd Library. Bibliography relating to the Floras of North America and the West Indies, of South America and the Antarctic Regions, of Asia, and of Oceanica by Wycoff. Synopsis of the Genus *Cladserris*, and Mycological Notes, No. 38, by Lloyd, 1913.

Philadelphia.—Proceedings of the Academy of Natural Sciences of Philadelphia, Vol. LXIV., Part 3, 1913, and Vol. LXV., Parts 1 and 2, 1913. Proceedings of the Meeting held March, 1912, in commemoration of the One Hundredth Anniversary of the Founding of the Academy of Natural Sciences.

Washington.—Smithsonian Institution, Annual Report for the year ending June 30, 1911; also Report of the U.S. National Museum for the year ending June 30, 1912.

Members are reminded that the volumes of the Society's Library are always at their disposal on application to the Lending Counter, Guille-Allès Library.

In conclusion, the Council desires to tender to the Board of Directors of the Guille-Allès Library their thanks for the continued use of the room for their meetings, for the use of their Lantern for demonstrations, the use of the Hall for the Soirée, and for their highly valued interest in the work and objects of the Society.

ABSTRACT OF THE TREASURER'S ACCOUNT.
 C. G. De La Mare, Treasurer, in Account with the Guernsey Society of Natural Science.

1913. Receipts.		1913. Payments.	
£	s. d.	£	s. d.
Balance of last year's account	26 5 4	Expenses connected with Soirée	2 4 7
Proceeds of Soirée	5 10 10	Cost of <i>Transactions</i>	34 0 0
Copies of <i>Transactions</i> sold	1 17 7½	Collection of Subscriptions	1 8 6
" of pamphlet on dolmen	0 18 4	Slides for Mr. Curtis' paper on dolmen	0 9 0
Subscriptions for 1912	0 15 0	<i>Star</i> Printing Co., amount of accounts	4 4 2½
" for 1913	34 10 0	<i>Press</i> Co., amount of account	0 12 6
Profits on Herm Excursion	2 13 1	Caretaker	0 15 0
Interest on deposit at Bank	0 13 10	Paper and chemicals for herbarium	1 3 4½
		Postages, &c.	0 8 10½
		Balance in hand	27 18 0
	<u>£73 4 0½</u>		<u>£73 1 0½</u>

Examined and found correct, December 13th, 1913.

J. LINWOOD PITTS, }
 BASIL T. ROWSWELL, }
Auditors.

C. G. DE LA MARE, *Hon. Treasurer.*

PREHISTORIC RESEARCH FUND.

	£	s. d.
1912—Balance in hand from last account	7	4 1
1913—Interest on Deposit at Bank to 30th June	0	4 4
	<u>£7</u>	<u>8 5</u>
Less paid to J. & S. Rabey for labour	0	1 8
Balance in hand to new account	<u>£7</u>	<u>6 9</u>

Report of the Botanical Section, 1913.

I have to report some new stations for rare plants :—

Crambe maritima, *L.* One dozen plants amongst shingle along the pier leading to Rousse Martello Tower.

Tamus communis, *L.* Found by Miss K. Tardif in several bushy spots between Fermain Bay and Bec du Nez.

Cicendia filiformis, *Reich.* During an excursion of the Society I noticed that plant very abundant near Houmet, the station not being recorded in the Flora.

Hyoseyamus niger, *L.* Very common as a weed in the gardens at La Chaumière, Castel. In July I found three plants in the field which is to be included in the Castel Cemetery.

Lepturus filiformis, *Trin.* Abundant amongst *Juncus acutus* at Albecq.

I think it is also my duty to mention in these notes that on the 9th of August I found along the road leading to Rousse Martello Tower a large and flourishing clump of *Tetragona expansa* (?). Of course, it is only an escape from cultivation ; the plant being grown for some years as a vegetable under the name of New Zealand Spinach. It is a member of the family of the *Mesembrianthemum*, which has no representative here.

I am also very glad to be able to state that the beautiful *Ophrys apifera*, Huds., is yet to be found in its old station near Portinfer.

It is right to note also two rather abnormal facts. At Icart Point I gathered two specimens of *Spiranthes autumnalis*, Reich., bearing each three spikes well developed, instead of one, as the rule. Lastly, in the Talbot Valley, I was much surprised to see as late as the 10th of October five or six plants of *Iris pseud-acorus*, *L.*, in full bloom. I also saw some in flower on the 20th of November.

R. METMAN, Sec. Bot. Sect.

Report of the Geological Section for 1913.

Divette, near Jerbourg, St. Martin's.

Attention has again been called to the series of deposits at this locality, which are as under :—

Head.

Blown Sand (White).

Raised Beach (25 feet level).

Hardened Sand (Brown).

Gneiss.

The Blown Sand under the Raised Beach is quite different from the sand between the raised beach and the

head. The former is hardened by the infiltration of iron oxide.

Hougue Rots, Vale.

The 25 foot beach here is underlaid by 5 feet of coarse red sand, and sandy deposits are also found over it. S.E. of this locality a layer of peaty soil 18 inches in thickness is found under sand with shells both terrestrial and marine, which in turn is covered by blown sand.

Norman Point, St. Sampson's.

The deposits in this locality are as follows :—

- 4 feet clay (löss).
- Rubble head.
- 10 feet sandy clay.
- 4 feet of the 25 foot beach.

Les Marais, near Bordeaux.

Here we find the following deposits :—

- Sandy loam with pebbles.
- 2 feet of clay without stones.
- 1 foot of clay with angular stones in large numbers.
- 4 feet of clay of a lighter colour and with fewer stones.

Baubigny, St. Sampson's.

Excavations have recently exposed sections in the flat land, both north and south of Baubigny. In the excavation to the north a layer of 2 feet of blue clay occurs immediately under the soil (which is sandy) and this blue clay is underlaid by 4 feet of yellow clay, the bottom of which has not been reached. In the other excavation, which is on Mr. Poat's property, there is found a similar layer of blue clay resting on yellow clay, but in this case there is also a layer of 2 feet of yellow clay overlying the blue clay.

L'Islet, St. Sampson's.

The 25 foot beach was exposed in a trench near the United Methodist Chapel.

Mont Cuet, Vale.

The 25 foot beach is seen near the detonator magazine, filling a hollow in the rock, resting on marine sand, and covered by blown sand.

Noirmont, near Pleinheauve, St. Sampson's.

Attention has again been drawn to the fact that the 50 foot beach in this locality overlies head, thus clearly indicating

that this beach is much more recent than the 25 foot beach which everywhere underlies the head.

St. Saviour's.

Pebbles are reported by Mr. A. Collenette as being found in the clay at various spots near the church, and are considered by him to have been derived from an ancient deposit (possibly tertiary) which must formerly have covered a great part, if not the whole, of the island. There are several outcrops of rock in the same neighbourhood, which appear to have been sea-washed.

Calais, St. Martin's.

A bone (probably ox) found in a peaty deposit in the small valley at Calais, had a deposit on its surface of small crystals of vivianite (hydrated phosphate of iron).

Curteret, Câtel.

Some small iron pipes, suggesting twigs, in which the wood has been replaced by iron, were found by Mr. A. J. F. Gibbons in the 25 foot beach north of Houmets hill.

Lowlands, St. Sampson's.

In the report for 1912 reference was made to the excavations for drains in this and other localities in the neighbourhood. A report from the clerk of works of this undertaking has been received from which the following notes are taken. At Lowlands the strata in descending order were:—

- 1.—2 feet of soil of a sandy nature.
- 2.—1 foot of sand.
- 3.—3 feet of clay of a yellow colour, intermixed with some of a bluish tint. This clay when pugged could be used for pottery.
- 3.—Gravel of a brown colour and rubbly nature. (By this is probably meant rearranged disintegrated rock.)
- 5.—20 feet of rock of a greenish tint (diorite) of no use for building owing to its disintegrated condition.
- 6.—20 to 30 feet of rock more solid in texture and darker in colour.

Nocq Road, St. Sampson's.

In Nocq Road, the rock (diorite) came to the surface in the part below Rue Roland; in the part above Rue Roland it was covered by clay (a continuation of No. 3 in the section

at Lowlands). This clay was also found in Rue Roland, La Ruelle, and half way from the corner of Nocq Road to La Ronde Cheminée.

C. G. DE LA MARE, Sec. Geol. Sect.

Report of the Marine Zoological Section, 1913.

Once more I have to deplore the lack of interest shewn by our members generally in this branch of our Society. Only one rare "find" has been reported to me during the past year, and that by two of our junior members—the Misses M. Carré and C. Dorey—of some specimens of one of the rare Cœlenterrata—*Lucernaria Campanulata*. These were exhibited at one of our meetings.

In August I came across a remarkably fine specimen of one of the Polyzoa—*Lepralia Foliacea*—which is very rare here. It was fixed to a rock in one of the inner Gouillot caves in Sark.

Phosphorescence of the sea in the summer owing to the presence of minute organisms is very common, but the scene I witnessed in Sark Harbour one evening last August was so exceptional as to be worth recording.

Going down late one evening to obtain sea water for the stock of animal life I had been collecting I found the whole harbour most brilliantly illuminated by myriads of phosphorescent points. On filling my bucket with water the phosphorescence still continued in the bucket, particularly if the water was agitated. The light was given off by medusoids—little transparent masses of jelly, each a living animal and an early stage in the development of the medusae or jelly-fish.

For a number of years I have kept a large and several smaller marine aquaria, and some observations I have made may be interesting.

Of the fishes I have kept I have found the little Smooth Blenny—*Pholis lævis* or *Blennius pholis*—and the Butterfly Blenny of our rock pools the most interesting and the most easily tamed. Naturally they are very pugnacious, but they very soon learn to take food from your fingers and even to jump out of water on to a rock to be fed. One, which I kept for several years and have now returned to the sea, showed no objection to being handled, and would even take and eat a piece of limpet while I held it in my hand. A peculiarity of this fish is that it will voluntarily leave the water and will spend several hours perched on top of a rock.

Mr. Ross says that he was able to tell whether it was high or low tide by observing a Blenny he had in his aquarium. At high tide it was invariably in the water, and at low tide reclining on a rock out of it. He kept it for five months "during which time it proved to be a regular and correct tide indicator." Well! I have kept several dozen Blennies—I had 16 at one time—and I failed to notice anything of the kind. Some of them frequently climbed—they don't jump—on to a mass of rock, and one in particular spent more time out of the water than in it; while others appeared never to leave the water. I could, however, never detect that their movements synchronized in any way with the state of the tide. They, however, seemed to leave the water more during the night than in the day-time.

The Goby—*Gobius paganellus*—another denizen of our rock pools, also became very tame, but was not so interesting as the Blenny.

The little Sucker-fish—*Lepadogaster cornubiensis*—which can be found on turning over stones at low spring tides during the winter, also easily became reconciled to captivity. They reminded one very much of tadpoles when seen swimming. Owing to their habit of adhering by their ventral sucker to the glass of the tank they could easily be examined. They appeared to be intensely inquisitive and explored minutely any change in their tank. You could distinctly see them watching your movements. They had a peculiar habit of floating for a considerable time on the surface of the water, belly upwards, so that several times I thought they were dead. Small specimens of the Wrasse—*Labridæ*—or Rock-fish soon became tame, but never displayed much intelligence. A peculiarity about the Blennies and Wrasses is that they can move their eyes independently of each other. It is very peculiar to see them intently looking at you with one eye, while the other is fixed on some object at the other side of the tank.

For hideousness the Father-lasher—*Cottus bubalis*—would be hard to beat. He proved a fearful bully, and would rush out furiously at any fish which came near his lair. At times he seemed to be possessed of fits of uncontrollable temper, and would send the sand flying in all directions. He was also very greedy, and would drive the other fish away from food till he had eaten as much as he possibly could, and would then remain, with a piece of fish hanging out of his mouth, which he was unable to swallow, still keeping the other fish from their dinner.

The little Pipe-fish or Sea-horse—*Hippocampus brevis-rostris*—proved intelligent, but timid and retiring. It would remain for a considerable time hooked on to a piece of sea-weed by its prehensile tail, throwing its body into all kinds of graceful attitudes. The male fish has a groove running along its belly, in which the eggs are placed after being laid by the female. One I obtained had the ova *in situ*, and in due course they hatched out, but the young were all devoured by the other fish.

I tried several small Conger-eels—*Conger vulgaris*—but they did not thrive well, and those that survived always remained sulky. Though, after a time, they would take food from the wooden tweezers I used, at the slightest thing that alarmed them they instantly retreated to their lair—a small space between two masses of rock.

Of the Crustaceans, the Prawns and Shrimps—*Palæmonidæ* and *Crangonidæ*—proved by far the most interesting. They soon became very tame, and would not only take food from my fingers without any fear, but would snatch food intended for the fishes and anemones, and even dash down boldly and carry off food partly swallowed by the anemones. The only anemones whose tentacles they seemed to fear at all were the Opelet and the large “Crass.” I had to use a small cane to drive them away while feeding the anemones, and they soon got to know its appearance and would rush to the other side of the tank when they saw it coming, only to return as soon as it was laid down.

Of the Crabs the only ones I found worth keeping were the common Green Shore Crab—*Carcinus mænas*—and the Hermit—*Pagurus Bernhardus*. Both of these became fairly tame, though the Hermit crabs seemed much the more intelligent of the two, but unfortunately they were inveterate fighters.

But though the Hermit is so pugnacious as long as it is safely lodged in the shell of some other mollusc, nothing on earth exceeds its shamefacedness when deprived of the shell in which it has taken its abode—not even a bather whose clothes have been stolen.

The Velvet Fiddler—*Portunus puber*—one of the prettiest of our crabs—though it proved to be an excellent scavenger, was altogether too voracious and pugnacious to keep in such a confined space. It never showed the slightest fear, however, and would furiously attack the wooden tweezers when the other animals were being fed.

An Octopus—*Octopus vulgaris*—which I kept by itself for some months proved quite untameable, and though it exhi-

bited a considerable amount of intelligence it was rather of the cunning order. Generally it remained during the day-time at the entrance to its lair, between some masses of rock, watching for any unsuspecting crab to come its way. Occasionally it would go for a promenade during the day, moving rapidly about the tank and making frantic efforts to get the tip of one of its tentacles over the top edge of the tank. Had it succeeded it would doubtless soon have been out. It absolutely refused to touch fish however hungry it was, but crabs and molluscs generally were eagerly eaten—the former for preference. The horny beak, by means of which, according to some writers, it is able to break open even the hardest molluscs, I never saw used for this purpose, and I doubt if it ever is so used, or even is capable of breaking open a shell. I found it used solely for eating food carried thither by the tentacles. I never succeeded in making it discharge the contents of its ink-bag.

It seems strange that so lowly organized a creature as an Anemone should display any intelligence, for they are devoid of any nervous system, and yet they exhibited decided likes and dislikes as to their food. Crab, mussel, shrimp and limpet were all readily eaten. Raw beef too they took freely—though hardly a natural food. Mutton they did not care for, and fish they would take only if very hungry, and frequently not even then. By what means they are able to distinguish between different kinds of food it is at present impossible to say, but it is evident that we are still far from knowing all that there is to know about even the commonest and simplest of our marine animals.

F. L. TANNER,
Sec. Marine Zoology Section.

Report of the Ornithological Section, 1913.

The most interesting fact, as I think, to put on record in this year's report, is the return of the Corncrake in larger numbers. It is within my remembrance that some twelve to fifteen years ago it was quite the usual thing when out in the country on a summer's evening to hear the pleasant crake, crake, of this bird quite commonly as one walked through the lanes. And I well remember a gentleman, blessed with a large grass field adjoining his garden, telling me more than once what a perfect nuisance the monotonous call was to him. One of these birds, it appeared, had taken up its residence there, and night after night for more than one season it ceased

not from sunset to sunrise to let the neighbours know of the fact. On some people the note of the Corncrake has a jarring effect, just as the shrilling of grasshoppers has, and I suppose my friend belonged to this number.

In recent years the growing scarcity of this summer visitor has been commented upon in these reports, and one could not help wondering if the covering over of so much land with glass and dwelling houses and the consequent breaking up of the open spaces had anything to do with it. Whether or not this is the cause as regards Guernsey, the fact remains that large districts in England have also experienced a marked falling off in numbers for some years, but it is now interesting to note, in connection with the bigger number visiting Guernsey this year, that a much greater influx has also been observed in the east of England.

Of the Swallow tribe observers are unanimously of the opinion that there has been a very marked falling off in numbers this season; even the Swift, which in recent summers has been coming amongst us in bigger companies, has not been so plentiful this year. And as regards the departure of the Swallow (*Hirundo rustica*) and House Martin (*Hirundo urbica*) it is interesting to note that the fine, sunny and mild autumn experienced had no effect in lengthening their stay with us—indeed the observations all tend to show that they left us even earlier than usual, and, personally, I saw no congregating of the birds on the telegraph wires a little previous to their departure as it is so customary for us to do.

Interesting experiments in connection with the migration of birds are in progress at various lighthouses including that at St. Catherine's in the Isle of Wight, and the Casquets in our own immediate neighbourhood. The pitiable destruction of bird life at the lighthouses during the great migration seasons owing to the magnetic attraction of the light on the little travellers, has been claiming the attention of a well-known Dutch ornithologist, Professor Thigse. This bird-lover has invented a system of perching rods which, fixed to the lanterns, are intended to afford temporary resting places for the often very exhausted birds which, hypnotised by the bright light, and finding no foothold, circle round and round the lantern, like moths round a candle, and finally fall exhausted into the sea. The experiments, we hear, have been tried with marked success at Brandaois lighthouse on the coast of Holland, and it is extremely gratifying to know that the Elder Brethren of Trinity House have given permission to the Royal Society for the Prevention of Cruelty to Animals,

and to the Royal Society for the Protection of Birds, to make similar experiments on the English coasts. As just stated perches have been fixed at St. Catherine's and at the Casquets. As regards the results sufficient time has not yet elapsed for any official pronouncement on the subject as regards these two lighthouses, but I may say in passing that a newspaper paragraph a few weeks ago spoke of the experiments at the Casquets as being eminently successful.

With these preliminary remarks I shall pass on now and give you a few notes about some of the birds which have visited us this summer. As you will notice I have again been ably assisted in the observations by several members of our Society and others, to all of whom I tender sincere thanks for the valued help given.

Chiff-Chaff.—This ever-welcome little bird was first heard by myself on March 19th in the Bon Air grounds at St. Martin's, and again on the following day at the same place. On the 22nd several birds were in evidence in the same neighbourhood, and onwards throughout the summer this lively songster made merry in the tree-tops. All through September I continued hearing the note in different parts of St. Martin's, and heard it for the last time (at Les Blanchés) on October 5th. This is not an unusually late date, but as regards the arrival of the bird, the date I have given is the earliest on record by three days for the nine years 1905-13.

Wheatear.—At both the Vale and St. Martin's the Wheatear seems to have made its appearance on the same date, April 3rd, for Mr. Hocart, of Les Mielles, has given me this as the first date on which he saw the bird at L'Ancrese, and I also saw one on this day along the Petit Port cliffs. Like the Chiff-Chaff the Wheatear remains with us until well into the autumn. In 1908 Mr. E. D. Marquand saw one at Icart Point as late as November 3rd. This year I continued to see the bird at different places, not exactly daily, but frequently, up to October 25th. Strolling along the Petit Port cliffs in the early morning of this day, I chanced upon one (an old friend I believe) not feeding as usual, but quietly perched on a rock looking out over the sea just as if contemplating the journey before him. I did not see it again. Mr. Hocart's last date for the Vale is October 23rd.

Wryneck.—The Wryneck was reported in the *Star* of April 2nd as having made an unusually early appearance in Kent, and the paragraph also stated that the bird had been heard in other parts of the country. In this island the earliest date for its arrival comes from Torteval, where the Rev. R. H. Tourtel heard the familiar cry on March 29th. This is also an early date for Guernsey. Two days later I heard a Wryneck in full song at the top of George-road, and at the Vale Mr. Hocart first heard it on April 10th. If, however, early to arrive, this migrant also ceased to be heard earlier than usual. At Torteval Mr. Tourtel did not hear the note after July 1st, and my last date for St. Martin's is the 12th. Frequently the bird can still be heard until well past the middle of July. Mr. Hocart reports that the Wryneck was heard very little in his neighbourhood, and by himself not at all after the latter part of May. His own impression is that this and other summer migrants are forsaking the Vale.

Cuckoo. The Cuckoo also made an early appearance—in fact in our eleven year record we have no earlier date, and only one as early (in 1905). On April 13th, Mrs. G. G. Tardif, of Le Friquet, St. Martin's, heard the note in the Vallon trees, close to Moulin Huet, and the following day myself and others heard it at the same place. On the 15th it was heard at Becq du Nez by Mr. H. C. Le Messurier, and, as reported by the late Mr. E. Durman, of the Victoria Hotel, at St. Saviour's as well; on the 16th in the grounds at Havilland Hall, Vauquiédor, by Mrs. S. Henry, and on the 17th Mr. Hocart heard it at the Vale. At Torteval Mr. Tourtel gives the 21st as the earliest date for that corner of Guernsey. On the same day that the bird was first heard here (April 13th) the *Evening Press* of the 17th reported it as having been both seen and heard at Alderney also, and for Sark, April 18th has been given me by Miss E. Henry as the date of arrival of the bird in that island. Similarly to the Wryneck again, the Cuckoo ceased to be heard unusually early. Personally I noted the call daily from June 14th to 21st, on the 23rd, and, for the last time (in the Sausmarez grounds), on the 25th. This also happens to be the last day on which the bird was heard by Miss Henry (in Havilland Hall trees), Mr. Rammell, and, at the Vale, by Mr. Hocart. At Torteval Mr. Tourtel did not hear the bird after June 21st. In normal seasons the Cuckoo can still be heard in the early days of July, and I may add that in our Society's ornithological record there is no such early date as June 25th for last hearing this bird.

Swallow.—One day later than last year, viz., on April 10th, Swallows began to arrive in the island, the first being noted by Mr. Hocart on that day. This, by the way, is an early date for the arrival of the bird here, but not a record, for in 1909 Mr. E. D. Marquand saw one at Houmet Homtolle on the 6th. On the 15th of April (1913) I saw a couple near Morley Chapel, and during the afternoon of the same day Mr. Rammell saw half-a-dozen at St. Andrew's. It was not, however, until towards the end of the month that one noticed them in bigger numbers. As already mentioned there was a marked scarcity of the Swallow all through the summer. Mr. Hocart, writing from the north of the island, said: "Few in May, but more plentiful in June. They left the Vale early in September," and he adds, "I saw the last on October 2nd, they appeared to be stragglers going south." Almost all through October I saw a few here and there, mostly at St. Martin's, and the last (at Les Blanchés) on the 27th, which was also my last date for seeing the bird in 1912. I have an interesting note of Mr. Rammell's. On October 16th, in the afternoon, he saw a company of some thirty to forty swallows flying about over the Petit Bot cliffs. Were these local birds, preparing for the southward flight, I wonder, or some that had halted here on their way from farther north? At Alderney, Swallows apparently arrived earlier in the spring than here, for the *Evening Press* of April 7th reported, on the authority of Mr. A. C. Tourgis, of Les Chevaliers, St. Martin's, that some were then to be seen flying over the Blayes and fields.

House Martin.—Of the actual arrival of the House Martin I can give you no information. Mr. Rammell reported seeing some several times during May, but could give me no dates, and I did not see any myself until the 31st of that month. Mr. Sinel, of Jersey, who was here on April 10th, told me that he had seen Martins in that island some days previously. The House Martin is known to arrive ordinarily quite as early and to remain with us as late, as the Swallow, and as a matter of fact, our *Transactions* give both an earlier

and later date for the House Martin than for the Swallow. (See the 1910 Ornithological Report.) In October I kept a sharp look-out for Martins, but only saw stragglers on isolated days, and the last (a solitary one) over the Petit Port cliffs on the 25th. This is our earliest date by four days for last seeing the bird. The House Martin, in common with the rest of the Swallow tribe, not only visited us in smaller numbers than usual but also disappeared earlier.

Sand Martin.—I have no observations on the Sand Martin this year, but of course it does not follow from this that the bird has not visited us, for as this migrant is believed not to nest in Guernsey, any we happen to see are, in all probability, merely halting here on their journey north or south.

Swift.—Of the Swift I have the result of my own observations only to give you. This bird-visitor, similar to all those of which I have spoken this evening, arrived early. It is rare to see Swifts in Guernsey until the beginning of May, but on April 29th one was sporting about over the Fort-road, and two days later, on May 1st, I saw the first of the little Town Church band, which, I may add, I had never before seen at so early a date. These, of course, were the advance guard of the army, and it was some days after this before any were seen in numbers. In August, the month in which most of the Swifts leave us, I spent rather more than a fortnight at St. Peter-in-the-Wood, and much to my disappointment saw Swifts on one day only. This was on the 20th, when two were flying over some fields at Les Hamelins, and I saw none afterwards. This practically entire absence of the bird in the neighbourhood of Rocquaine and l'Erée seems strange, for on the 9th, when I went out to St. Peter's the bird was still fairly numerous at St. Martin's. This, August 20th, is my earliest date by five days for last seeing the Black Swallow as the Swift is also called.

Corncrake.—In striking contrast to last year's observations of the Corncrake which were all included in the short space of eight days, this season's notes embrace a period of six weeks, beginning on May 24th and ending on July 4th. On the former date Mr. Rammell heard the bird near St. Andrew's Brickfield, and on the latter in the same neighbourhood also. On May 26th, while observing Schaumasse's comet with Mr. Rammell from Les Bemonts between 9.30 and 11 p.m., two of these nocturnal gossipers disturbed (but not by any means unpleasantly) the stillness of a lovely night by a continual "crake, crake" during the whole of our stay there. But the most interesting occurrence to me in connection with the visit of the Corncrake this season was hearing the bird on several nights in some fields at the back of Sausmarez Manor at St. Martin's between June 16th and July 1st. It is many years since I had heard the bird so close to Les Blanchés. Mr. Tourtel, at Torteval, did not hear the bird at all this season.

Ring Ousel.—At the beginning of October Jurat G. E. Kinnersly told me that he had been informed on reliable authority that Ring Ousels had been seen at St. Martin's a few days previously, but he could not give me the exact date. A few of these birds are often seen here at the time of the Autumn migration.

Blackstart.—On Saturday morning, October 18th, I saw a Blackstart near Le Héchet Mill, at the top of the Ruettes Brayes, and on the 25th of the same month I saw another of these rare bird visitors on the Petit Port cliffs.

Nightjar.—No one has reported either seeing or hearing the Nightjar (or Goatsucker) this year. Mr. Rammell kept a sharp look-out for some during the spring and summer but without success.

Common Buzzard.—A fine specimen of the Common Buzzard, *Buteo vulgaris*, was shot at the King's Mills, Câtel, on February 28th by Mr. John

Falla. The bird was stuffed locally and is in Mr. Falla's possession at the King's Mills, where both Mr. Rammell and myself saw it on April 8. Cecil Smith in "The Birds of Guernsey," says of the Common Buzzard: "It is, I believe, an autumnal visitant only, as I do not know of a single specimen taken at any other time of the year, nor can I find a record of one." Mr. Sinel tells me that it is only an occasional visitant to Jersey also.

Gannet.—The *Star* of Tuesday, October 21st, reported the capture on the beach at the Banques, of "a strange bird," by Mr. Richards, of Delancey. I went down to see the stranger on the Thursday and found it to be a young Gannet—a bird of this year evidently, for it still had down on the nape of the neck, and the feathers, unlike the snowy-white plumage of the adult bird we are mostly accustomed to see here, were the dusky brown tipped with white of the young bird. It was a fine specimen of its kind, but had apparently arrived here in a very exhausted condition, for it survived its capture one day only. Specimens of both the young and the adult bird are in the Guille-Allès Museum.

Moorhen.—The Moorhen of which I have spoken in recent reports as wintering regularly at Sausmarez Manor, St. Martin's, has again made its appearance in the grounds, but did so at a later date than usual. Last year it was seen as early as September 25th, but this autumn not before the 29th of November.

BASIL T. ROWSWELL,
Sec., Ornith. Sect.

Report of the Antiquarian Section for 1913.

The principal discovery has been that of a *câche* or hiding-place in the Tower of St. Sampson's Church which took place on June 27th, in the course of some work to the Belfry to carry the old Bell. In the *câche* was found a collection of instruments probably dating from pre-Reformation times in all ten in number. They consisted of an altar cross on a base, designed also to be used as a processional cross, the lower portion of a thurible or censer, and 7 portions of candlesticks and candelabra, making up two odd candlesticks with prickets, the upper portion of a candelabrum in three pieces and 5 other candelabra. They have been shown at the Exhibition in connection with the Church Congress at Southampton and also to the Society of Antiquaries whose report on them is looked forward to with much interest. They were also exhibited to members and their friends at the usual Monthly Meeting on January 28th, 1914. They are of a rude description and their interest lies chiefly in their authenticity, and the consensus of opinion points to their being the objects actually in use at the time of the Reformation about 1560.

Another discovery was that of three neolithic, or perhaps of later date, cists on the Noirmont Hougue, St. Sampson's. They were empty, but a celt was found at the same time in

close propinquity to them. As the hill on which they were found was about to be quarried away, arrangements were made to take them away bodily and re-erect them in the courtyard of the Lukis Museum, where they may now be seen in the same orientation and relative positions to each other which they occupied on the hill on which they were discovered.

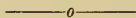
The site of the dolmen and enclosure at L'Islet discovered last year has now been taken over by the States and we may now rest assured that this structure, novel to Guernsey, will not suffer at the hands of inquisitive and thoughtless persons. The pamphlet describing the discovery has been circulated amongst the various learned Societies and has excited much interest, but no definite opinion as to its age and object of the structure has been obtained.

It is noteworthy that these discoveries of later years have awakened a great deal of interest among all classes of the community in Guernsey, and the members of the Society are constantly having brought to their notice circumstances of finds, which a few years ago the finders would have thought of no consequence. Most of these are of little or no interest, but it is satisfactory to notice that observers are on the look-out in all parts of the island for objects of antiquarian value.

S. CAREY CURTIS, Sec. Antiquarian Section.

NOTES ON THE RESULTS OF THE SUMMER EXCURSIONS, 1913.

BY MR. A. COLLENETTE.



THE Geological detail gleaned during the excursions carried out this summer and also during routine work of the geological section has been important but not startling. It is, however, different with the anthropological observations and finds. These have been very important and the ultimate conclusions derived from our detail may have a far-reaching result.

Anthropology and Geology (or at all events superficial geology) are here inseparable, for the relative ages of the implements found must largely depend on the true estimation of the deposits in which they are found.

It was with a keen appreciation of this fact that, as far as my own work was concerned, I did all I could during the excursions to enable the members of the Society to see the detail of the superficial deposits so that they might follow the discussions. I shall therefore spend the greater part of my time this evening on the Anthropological finds and their geological horizons.

The anthropological finds consist of worked flints chiefly, but these are of very different ages, and I consider that one of the results of the year's working is the recognition, beyond the shadow of a doubt, of the presence, in our deposits, of paleolithic implements.

It has been the custom for the members of this Society to speak of flint implements, whatever their type, as Neolithic and indeed prominent members up to very recent times have denied the presence of paleolithics on the island.

The fact of the undoubted presence of Mousterian man in Jersey and the impossibility of separating Jersey and Guernsey as regards their superficial geology has caused a revulsion of opinion, and last year it was tentatively conceded that Guernsey as well as Jersey should show evidence of paleolithic man.

It will be well for a moment now to consider what our deposits are and why our flint implements have all been attributed to neolithic times.

CLAYS.

We have, first, clays. These used to be considered purely of local and restricted origin. During the excursions I have given the members opportunities of seeing that a yellow plastic clay rests over practically the whole island and that that clay is without stratification, but that everywhere it contains pebbles.

This was proved during the walking excursion at St. Martin's, also it was demonstrated during the outing at St. Saviour's where pebbles were taken by the members themselves from the clay, *in situ*. We have also had it demonstrated that those portions of the clays which find themselves in the "heads" on the coasts have been redistributed, and that at Fermain and at Divette, not to speak of other places, the redistributed clays are referable to fluvial action and are distinctly stratified. At Fermain and Divette the "head" was shown to be intermediate between the clay deposits. At George Road and in the Croutes Lane the clay was demonstrated to be in two distinct layers, but the second rested directly on the first. On the cliffs, on the contrary, there was rubble head between. Thus it will be seen that there have been separate periods when the clays have been washed from the high land on to the cliffs and into the valleys, and that in between there have been periods of elevation of the land which owing to low temperature have caused the accumulation of head.

That the clays have been deposited in two separate periods seems thus to be established, and a reason must be found for their lying conformably on each other on the high land and not on the cliffs and in the valleys. The reason seems to me to be that the deposits which originally rested on the first deposited clay have been removed by denudation, and no doubt the four feet of clay representing the first deposit is in itself only a remnant of one much thicker. The lower deposit contains pebbles in fewer numbers than the second; it is in the second that we find the pebbles in numbers and also flint chips and implements.

I do not wish to labour this point but to show its importance. I will give an idea of the richness of the clay in pebbles and in flints.

In one case I saw at St. Saviour's a quantity of pebbles on a Farm, separated from the arable portion of the land. I asked the farmer if these had been brought up from the sea shore and obtained the reply that there was clay under the soil and that as it was turned up these pebbles were separated.

In the case of my own garden, reported last year, a cube of 4 feet yielded 58 pebbles. But the yield of flint chippings and implements has also been numerous.

I reported last year 54 worked flints from the 4 feet cube of clay and this year I have to report that Mr. H. J. Morgan, whose ground is at the back of my garden, has collected, after a three-foot trenching, some hundreds of flints, all showing flaking by man and some few being implements of great value, to which I shall allude later on.

Before speaking of the flint implements I wish to describe the detail of the year on the beaches, for they also are involved in the flint finds.

BEACHES.

The pebbles in the clay, now found in such numbers, seems to me to point to the existence, in former geological times, of an extensive beach on the high land of the island, 300 feet. This, as far as we can judge at present, has been entirely distributed.

Some new exposures of the 25 ft. beach have been met with. At the "Mare de Carteret" excavations have been made in the road and on the growing estates which have enabled me to draw an outline of the sea margin of that period.*

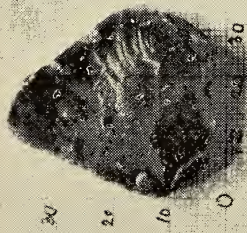
I have also two new exposures of the 50 feet beach—one at the Catellaine where a new cart-way into the quarry has exposed a section of the beach with sand and head overlying and red gravel with beach stones below, and one at the Guillotine quarry where the removal of the "head" has exposed deposits of sand, pebbles and clay.

I have also to report that in the Braye du Valle, at Hawksbury, a deposit of pebbles being part of a beach was passed through in digging a well. The deposit was 4 feet thick, rested on rock and had 3 feet of clay over it. The bottom of the deposit is at or about mean sea level, hence may belong to the present period, and date from the time when the sea was able to pass right through the Braye. The members also had an opportunity of seeing the submerged beach at Vazon.

FLINTS AND IMPLEMENTS.

Although not found during the excursions still I give a place to the finds of the year in this report, because one of the chief demonstrations was, as already stated, to give the geological horizon for these finds.

* I have to acknowledge my indebtedness to Mr. A. J. F. Gibbons who notified me of the excavations.



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That many flints previously looked upon as Neolithic must be placed in the paleolithic period I feel able to demonstrate.

(1st) We have the actual detail of the work on the flints to consider. In this connection let me say that as regards mere chips which show the minimum of working and yet are undoubtedly artefacts we need not fear to consider them paleolithic if found in the clay, because it is now fairly certain that these belong to all ages of flint implements.

(2nd) I have, however, discovered, as far as Guernsey finds are concerned, that a large proportion of the flints and many of the pebbles are polished by friction in the clay, and if it is admitted that the clay in which they occur is glacial in its origin then those polished flints are paleolithic, for they are immensely older than those of the Neolithic horizon. In fact I may say that all the purely neolithic deposit on arable land has been used up and the deep ploughing has brought the clay deposit into use, and we are now working on a paleolithic surface. This being so we may claim all polished flints and all characteristic flints as paleolithic.

I shall enumerate the flints found during the year, excluding those of minor importance.

No. 1.—One from Mr. Morgan's land. It is a heart-shaped "Coup-de-poing" and although smaller matches one found in "La Cotte de St. Ouen," Jersey, and now in the Lukis Museum. This is undoubtedly Mousterian in type and its find confirms the glacial origin of the upper clay, for Mousterian men were inter-glacial.

No. 2.—An ovoid disc, showing careful working on one side. This is also from Mr. Morgan's ground. It is like some of the Jersey cave forms, and being derived from the clay must be considered Paleolithic.

No. 3.—Was found by Dr. Kinnersly, at Calais, and is one of several presented by him to the Museum. I attach considerable importance to it, for it is, as far as I now know, unique in shape.

Its working reminds one of that of the Solutrian culture and I have tentatively called it Solutrean, but I am quite prepared to rename it if the evidence in favour of any other period becomes strong enough. The shape is very unusual. The lower half forms three sides of a square and starting from the top of the square the lines converge. The implement now has a round apex, but it may have been roughly pointed originally. The flaking is coarse and not neolithic in type, hence I consider it earlier. Mr. Sinel pushes it further

back and calls it Chelian. The flints I have described, and others collected by Col. de Guérin, were lent to Dr. Marett and by him shown to well recognised authorities at the British Association meeting last month, but he informs us that these authorities were not agreed as to the culture to which they belonged. They needed, I think, the knowledge we possess of their geological horizon. Besides the foregoing there have been found numerous long flakes usually named knives. These were chiefly found by Mr. Morgan.

The year's finds include many "points" and "scrapers," some of which may be neolithic, but others, owing to their polish, I class among the paleolithic.

The cores and rough flakes are too numerous to mention, except two cores polished by the clay; one, the larger, was found in the Moulin Huet stream and handed in by a visitor. Mr. Allès has handed in several points and scrapers picked up by him at St. Martin's.

EOLITHS.

There has recently been much discussion as to the origin of some very rough implement-like flints, found in strata which, before the last two years, were considered to be beyond a possible human period. These are by many considered to be genuine artefacts. Others think them accidental. If genuine they are likely to run in given patterns and to show working which runs on planned lines. Consequently those who believe these to be true implements have to convince the doubters by finding evidence of design; hence the attention of anthropologists is being turned towards the strata wherein such instruments may occur.

In common with others I have sought, and more earnestly after hearing from Mr. Sinel that he and his son held three eoliths found in Jersey.

During the excursion to Herm I was fortunate enough to find what I hoped might prove to be a true eolith. It has been examined at the British Association. Some, as for instance, Professor Dawson, will not venture an opinion. Mr. Sollas, an authority of note, "will not have it at any price." On the other hand, Professor Smith, I think of Manchester, who is a collector, declares it to be a genuine artefact. In view of these differences of opinion I think it best to be of an open mind and wait for more evidence.

The Herm "eolith" is, however, remarkable in possessing a triangular section which is common to many of the early implements. I have in the collection of the

Museum many later implements with the triangular section. I speak of these as being ridged or keeled, and I have noticed that others have had the ridged form and been flaked so as to remove the ridge longitudinally. I think these forms are the result of evolutionary sequence.

There is the fact that the Herm "eolith" has the form of true implements. It was found associated with the 25 foot beach and that fact sent me to the same beach in Guernsey. Although I have searched far and wide I have been fortunate enough to find only one, but I do not feel confident about its being an artefact.

On the other hand, out of Mr. Morgan's prolific garden, one has turned up which has better claim to being an eolith than my second. This conforms more nearly to the type specimens.

We now have three eoliths in Jersey and three in Guernsey. These no doubt will be added to during our next year's outings.

The year's excursions have failed to add to our collection of Neolithic implements, but I show two very rough stones which have been used by man. They illustrate the fact that neolithic men, or possibly neolithic boys, would pick up from the beach stones which approached celts in shape and use them without submitting them to further shaping. Mr. Curtis found one of these at Cobo and I found the second at Rocques Barrées, Vale.

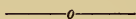
Many such rough stones have found places in our museums and there can be no doubt that such were used in their rough state for temporary purposes.

An interesting discovery was made on the top of the Vardes quarry of three stone graves, which, owing to the quarry extension it was necessary to remove. Mr. Carey Curtis, the Secretary of the Society, carefully planned and measured them, and by arrangement with the Lukis Museum Committee the graves were carefully removed and reset in their relative positions, and with the correct orientation in the space in front of the Lukis Museum entrance.

The graves were empty and without covering stones. They were small, about two feet in length.

AMIAS ANDROS AND SIR EDMUND, HIS SON.

BY EDITH F. CAREY.



THE family of Andros, Burke tells us "was founded by Ralph Andrews of Gray's Inn, son of Thomas Andrews of Carlisle (Anno 1286), as appears from a certificate under the hand and seal of John Andrews of Charwelton, now among the archives of the College of Arms." The arrival of a branch of this family into the Island of Guernsey—where the surname of Andrews was converted by the French speaking population into "Andro' or "Andros"—is best described in the Patent of Arms made in favour of Sir Edmund Andros in 1686.

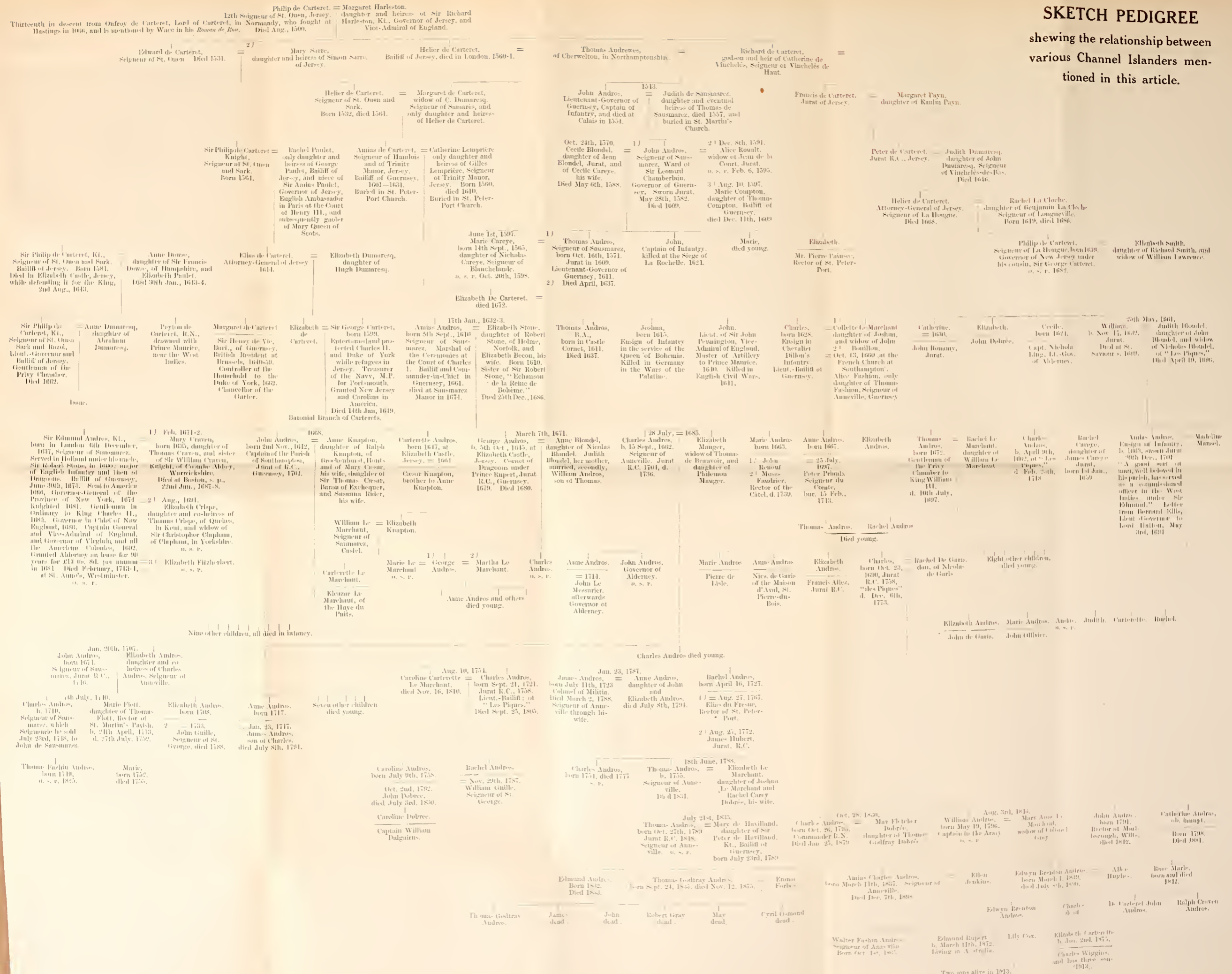
"Wheras His Excellency Sir Edmond Andros Knight, Lord of Ye Seignorie of Sausmarez in Ye Island of Guernsey, one of Ye Gentlemen of His Majesty's most Honourable Privy Chamber, Captain Generall, Governor in Chief and Vice Admiral of all his Majesty's Territories and Dominions of New England, New York and New Jersey, hath made application unto me, Henry Duke of Norfolk, Earle Marshall of England &c, That his Arms may be registered in Ye College of Arms in such manner as he may lawfully bear them, with respect to his Descent from Ye Antient Family of Sausmarez in Ye said Isle, there being no entries in Ye College of Arms of Ye Descents or Arms of Ye Families in that Island; And Wheras it hath been made out unto me that his great grandfather's father John Andros (*alias* Andrews) an English Gentleman borne in Northamptonshire, coming into Ye Isle of Guernsey as Lieut^t to Sir Peter Mewtis Knight Ye Governor, did there marry, anno 1543, with Judith de Sausmarez, only daughter of Thomas de Sausmarez, son and heir of Thomas de Sausmarez Lord of Ye Seignorie of Sausmarez in Ye said Isle, which Judith did afterwards become heir to her brother George de Sausmarez, Lord of Ye said Seignorie, And that John Andros Esq^{re}, son and heir of Ye said John and Judith, had Ye said Seignorie with its appurtenances and all Rights and Privileges thereto belonging, adjudged to him by Ye Royal Commissioners of Ye said Isle, Anno 1607, against Ye heirs male of Ye family of Sausmarez, who then sued for Ye same as finding it to be held of Ye King by a certain Relief and certain services, all of which were inseparable from Ye said Seignorie. And wheras it hath been made appear unto me by an antient seal of one Nicollas

ETCH PEDIGREE

ng the relationship between
The
of Cherwell s Channel Islanders men-

SKETCH PEDIGREE

showing the relationship between various Channel Islanders mentioned in this article.



de Sausmarez, which seems to be between two and three hundred years old and by other authorities; That Ye said family of Sausmarez have constantly borne and used Ye Arms herein impressed—I, Ye said Earl Marshall, considering that the forementioned Sr Edmond Andros Knight, and his Ancestors, from Ye time of Ye said John Andros who married Ye heir General of Sausmarez as aforesaid, have successively done Homage to Ye Kings of England for Ye said Seignorie, and thereupon have been admitted into and received full Possession thereof Do order and Require that Ye Arms of Andros (as Ye said Sr Edmond Andros and his Ancestors ever since their coming into the said Isle have borne Ye same) quartered with Ye Arms of Sausmarez as they are hereunto annexed, together with the Pedigree of Ye said Sir Edmond Andros herewith also transmitted, be fairly registered in Ye College of Arms by Ye Register of Ye said College, and allowed unto him, Ye said Sir Edmond Andros and Ye heirs of his body lawfully begotten, and of Ye body of his great Grandfather John Andros son and heir of Ye forementioned John Andros and Judith de Sausmarez, having, possessing, and enjoying Ye said Seignorie, to be borne and used by him and them on all occasions, according to Ye Law of Arms. And for so doing this shall be a sufficient Warrant; given under my Hand and Seal the 23rd day of September 1686, in the 2nd year of Ye Reign of our Sovereign Lord King James Ye 2nd &c.

NORFOLKE—Earl Marshall.

ANDROS. Gules a Saltire Or, surmounted by another vert; on a Chief Argent, three Mulletts sable.

SAUSMAREZ. Argent on a chevron gules, between three leopards faces sable, as many Castles triple tower'd Or. Crest: A falcon affrontant proper, beaked and membered Or. Supporters, dexter, a unicorn, tail Cowarded argent; sinister a greyhound, Argent, collared gules, garnished Or." (1)

John Andros, the first of the name in Guernsey, is described as being a "Capitaine d'Infanterie," and was one of the garrison of Calais, in which place he died in 1554, leaving an only child John, a minor, to whom his cousin Sir Leonard Chamberlain, then Governor of Guernsey, was constituted guardian. (2)

When this John Andros the second grew up he became a Jurat of the Royal Court, and lived and died at Sausmarez Manor. He married three times, his first wife being Cecile Blondel (daughter of John Blondel, also a Jurat, and his wife Cecile Careye). They had two sons, Thomas Andros, Seigneur of Sausmarez and "Capitaine" of the St. Martin's

(1) From the Guille MSS. now in possession of the Rev. H. de C. Stevens Guille, of St. George, Guernsey, and collated with a copy in possession of Lord de Sausmarez, of Saumarez Park, Guernsey.

(2) Sir Leonard Chamberlain married four times, one of his wives being a daughter of Richard Andrews, of Woodstock, a cousin of John Andros, of Guernsey.

regiment of Militia, who was sworn in as Lieut.-Governor of Guernsey under Lord Carew, and John, who, under the auspices of his kinsman Henry de Vic, served under Admiral Sir John Pennington and was a member of the unfortunate expedition led by the Duke of Buckingham to the relief of La Rochelle. Here he met his death in 1627.

Thomas Andros married first, his cousin Marie Careye, who died the following year, and again, in 1606 Elizabeth de Carteret, daughter of Amias de Carteret, Seigneur of Trinity Manor, Jersey, and Bailiff of Guernsey. Of this union were eleven children, of whom four were soldiers who fought and died in the cause of the Stuarts.

Amias Andros, the eldest son of Thomas and Elizabeth de Carteret, married on January 17th, 1632-3, Elizabeth Stone, daughter of Robert Stone, Esq^{re}., of Holme, in Norfolk ⁽¹⁾ and sister of Sir Robert Stone, Captain of a troop of Cavalry in Holland, and Cup-bearer to the Queen of Bohemia.

It will be remembered that Elizabeth Stuart, the fascinating daughter of James I. and Anne of Denmark, married Frederick, Elector Palatine of the Rhine and afterwards King of Bohemia. After a reign of a few months he was deposed, and he and his wife found refuge at the Hague, where their Court became a resort for the Cavaliers driven out of England by the Rebellion. We soon find that Amias's two younger brothers Joshua and John had availed themselves of Sir Robert Stone's influence to join an irregular force of Cavalry, which united the charms of being in the thick of whatever fighting was going on, with the access, during intervals of leisure, to the most agreeable society in Europe. Joshua Andros was killed during the Thirty Years' War; John became Master of Artillery to Prince Maurice, the Queen of Bohemia's warlike son, and when the latter and his gallant brother Prince Rupert came over to England in the spring of 1641 to defend their unfortunate uncle Charles I. against his rebellious subjects, John Andros came with them and was killed in one of the battles of the Civil War. Charles Andros, their younger brother, was an ensign in the famous company raised by the Chevalier Dillon; he served under the Duc de Vendome in his expedition to Gascony against the rebels and was *Maître de Camp* in the Army of Louis XIV. He was fortunate enough to survive these experiences and,

(1) Marriage Licence, Faculty Office, Archbishop of Canterbury. ANDREWS, Amias (Andros), of St. Margaret, Westminster, Gent, bachelor, 22, and Elizabeth Stone, spinster, 21, daughter of one Stone, late of London, Gent, deceased, and her mother also (as is believed). She is at her own disposal and remaining in Parish of St. Bartholomew, near the Exchange, London; alleged by Clement Wilson of St. Brides, Gent, at Islington, Middlesex, 16th January, 1632-3.

on October 10th, 1660, we find that he married, at the French Church at Southampton, Alice Fashion, heiress of the Seigneurie of Anneville—a fief which has remained in the Andros family to this day. This Charles Andros eventually served as Lieut.-Bailiff of Guernsey under Edmund, his nephew.

We must now return to Amias Andros, who had been made Marshal of the Ceremonies to King Charles I., and was in such favour with his Royal Master that he was granted a supplementary allowance of £100 a year.⁽¹⁾ On the 6th of June, 1637, by special favour he was granted the privilege of doing homage to the King in person for his Seigneurie of Sausmarez “which had been done by his father before him to Ye Governor of Ye Island, though of ancienter tymes wont to be done by his Auncestours to Ye King himselve, as it was nowhere in England. The manner of it being thus:—His Majesty . . . as he passed to Chappell (it being a sermon day) took his seat in his chayre under ye stall, in ye Presence Chamber, ye sword borne before him by ye Earle of Northumberland and ye great Lords and officers of State attending; when ye gentlemen mentioned (wayting at ye presence doore) was fetched thence, by and betweene ye Earle of Arundell, Earle Mareschall of England, and ye Earle of Pembroke and Montgomery, Lord Chamberlain of His Majesty’s Household, through a guard of ye Band of Gentlemen pencion^{rs}; and after three reverences, laying downe his sword and Cloake all in forme (as had beene prescribed by Garter King at Arms, Sir John Barrows) he kneeled downe at His Majesty’s feete, and with hands closed betweene His Majesty’s hands pronounced these words in French:—“Sire je demeure vostre homme à vous porter foy et Hommage contre tous.” To which ye King returned this answer, also in French:—“Nous vous acceptons, advouant tous vos légitimes droits et possessions relevants de ceste teneur de nous, sauf pareillement à tous nos droits et Régalez.” This said, ye Seigneur de Sausmarez, by which name he was thenceforth to be called (quitting his ordinary appellation of Andros) receiving ye honour of a kisse from his master, rose up, and, with most humble Reverence, reassuming his Cloake and sword,⁽²⁾ departed.” That he faithfully kept his vow is proved by his subsequent career.

On the outbreak of Civil War he joined the force commanded by Prince Maurice, in which his brother John was already serving. A safe conduct, addressed to all the local officials by the Prince, still exists⁽³⁾ requiring them “to pro-

(1) British Museum. Harleian MSS. 1012, f. 27.

(2) Sir John Finett’s Journal.

(3) Guille MSS.

vide and furnish the bearer hereof, Amos Andrews Esq. (being employed on His Majesty's Special Service) with two horses and a sufficient guide from stage to stage to Oxford and Likewise back again to my Quarters. Hereof fayle not att yo^r perill. Given att Dartmouth under my hand aud seale att Armes, the 2nd of November, Anno Dⁿⁱ 1643."

During this year, the people of Guernsey—Calvinistic and puritanic both by training and disposition, and nearly ruined by the compulsory billeting of English garrisons upon them by the Stuart kings—took the side of Cromwell, while Jersey, under the despotic rule of the de Carterets, and the English troops in Castle Cornet under the Governor, remained faithful to the King. Those unfortunate troops must have been in a worse plight than any other of Charles's loyal subjects; in danger both from the attacks of the Island, and the assaults of Cromwell's ships, as well as suffering from the ever present anxiety and pressure of famine. Yet here we find Amias Andros enduring the terrible monotony of a long siege while within tantalising proximity to his own Manor House.

In 1646, Charles II., then Prince of Wales, with his brother the Duke of York, had fled to Jersey for safety and were living there under the protection of Sir George Carteret, Amias Andros's friend and kinsman. It is evident that Amias had intimated that he would prefer to be in the peace and plenty of a Court in Jersey than starving in a beleaguered fortress, for Charles wrote him the following letter from that Island:—

(1) "After our heartie commendacons. We have received so many testimonies by Sir George Carteret and Sir Tho. Fanshawe and other-ways of yo^r affec^{on} to ye service of Our Royall Father and yo^r sufferings for that affec^{on} in ye Island of Garnsey and yo^r good service in the Castle there since ye revolt of ye Island, that we cannot but let you know ye Princely sence we have of it, assureing you that we shall remember ye same to yo^r advantage. We desire that for ye present you will not thinke of leaving of that Place, but assist S^r Baldwin Wake in ye disposing of ye officers and souldiers to such a cheerful performance of their duties that we may have as much cause to thanke them for their future service as we have for their past sufferings. And if after all things are well settled there you shall desire to come hither to Vs for a tyme, we shall willingly consent to it, in ye meane tyme we desire to receive advice from you whether you conceive y^t without any addic^{on} and attempt by force, a Declaration from Vs of Grace and Favour to that Island, may have any influence on them towards ye reducing of them to their loyalty, and if so by what way the same shall be attempted, so not doubting of ye continuance of y^r Care and affec^{ons}, We bid you heartily Farewell.

Given at our Court in ye Island of Jarsey,
Ye 4th of May 1646.

CHARLES P.

It is probable that Amias Andros was still shut up in his voluntary prison when the shame of regicide fell over England and men listened unmoved to the

“Trumpets round the scaffold at the dawning by Whitehall,” and still the little band at Castle Cornet remained faithful to their martyred King and his exiled son.

In October 1650, Charles II. was at Perth, and from there, while calmly ignoring the fact that Guernsey was under the despotic rule of the Parliamentarians who naturally were appointing their own officers, he sent Amias Andros the following commission : ⁽¹⁾

CHARLES R.

“Whereas we have had sufficient testimonies of yo^r experience and abilities in the discharge of places of trust and Judicature, We have thought fit to nominate and appoint you to the Place and Office of Bayly of our Island of Garnsey. Authorizing you to take possession of the said Place and Office with all Honors, profits, and prerogatives thereunto belonging in as ample and full manner as any of the Baylies that have heretofore enjoyed the same. And in case of necessity we hereby authorize you to substitute in your place and stead, in the quality of your Lieutenant such a one as shall be capable to discharge and performe that trust. Given at our Court at Perth, the 25th day October 1650. In the Second yeare of our reigne.

To our trusty and well beloved subject and Servant Amice Andros Esq. Seign^r of Sausmarez in our Island of Garnsey.”

We have no record that Amias at that time tried to claim this very unsubstantial honour, and on Dec. 15th, 1651, Castle Cornet, after having held out for nine long years, capitulated with all the honours of war. A month later, January 14th, 1652, Charles again signed a passport ⁽²⁾ desiring “All Governors, Admiralls, Wardens, &c., to give free passage to ‘Notre feal et bienaimé Amice Andros, Seigneur de Sausmares, s’en allant maintenant aux Pais bas, en France, et de là en nostre Isle de Jersey.’” Like all King Charles’s loyal followers Amias endured, until the Restoration in 1660, a period of poverty and exile, serving for part of the time in Holland with his brother-in-law, Sir Robert Stone, as a Captain of Cuirassiers. Even in 1660, his troubles were hardly at an end, as the following petition will show :—

“To the King’s Majesty : Humbly sheweth

That having served your Majesty’s Royall father of blessed memory in the place and office of Marshall of the Ceremonies for many years and by occasion of the late troubles was forced to quit it. And since that to the very last of all those troubles served his said Majesty and your Royall selfe both in Garnsey, Jersey and elsewhere and for that cause was dispoyled of his

(1) Guille Collection.

(2) Guille Collection.

whole estate, which for ten years together was possess by his compatriotts who were of a contrary party and upon that accompt his implacable enemeys. And yet at his returne (notwithstanding all these sufferings) as a further aggravacion of Misery was forced to pay two yeares composition to the ruine of himselfe and family. He humbly prayeth that yo^r Majesty would be graciously pleased to comiserate these his sufferings and to restore him to the said place and office with the fees and advantages thereunto belonging, whereby he may be in some measure enabled to repayre these his lossess and doe yo^r Majesty further service."

This petition was granted in September 1660.

By the following extract from a letter from Captain Waterhouse, Lieut.-Governor of Guernsey, to Amias Andros, it is evident that during the rule of the Parliamentarians not only had his Royal patent of Bailiffship been ignored and his office filled by Mr. Peter de Beauvoir, Seigneur de Hommet, but also that his Seigneurie of Sausmarez had been sequestered :—

"This day I had the States assembled to recall De Homett's commission by them. That passage of yours in my letter that De Homett told you he was forced by the States to take your employment on him made most of them laugh, though some bitt their lipps, being unwilling to heare anything to his disgrace. All is salved for De Homett in y^t he hath desisted. Elizee Samarez & Will Marchant averring the same, and that he never presented anything to the Parliament but as a privat man. Yo^r Lady needeth not my assistance about the tythes, for the last weeke Bonamy sent unto her y^t she should come and take her dues in Gerbourck. Yo^r Lady sent him word y^t he might take his home provided he brought hers into her Hay yard, he brought his owne away; whereon a Clamor de Haro was made and Bonamy very orderly brought yours which hath caused much laughter, it falling on him, who is as you know, the instigator of all troubles . . . My respects to Mr. Charles, Mr. Edmund, Captain White, &c.

Aug. 25th, 1660.

CHARLES WATERHOUSE."

But Amias Andros's troubles were nearly at an end. By the Order in Council of August 13th, 1660, "Sir Henry de Vic, Knight and Bart.; Monsieur Amice Andros of Saumarez, Bayliffe of the said Islande; Mr. Edmond Andros, sonne of the said Amice; Mr. Charles Andros, brother of the said Amice, and Mr. Nathaniel Darrell were especially exempted from the indignity of inclusion in the general pardon granted by Charles II. to the inhabitants of Guernsey, because they "have to their great honour during the late Rebellion, continued inviolably faithful to his Majesty."

On May 2nd, 1661, Amias was at last officially sworn-in as Bailiff of Guernsey, and on June 28th, 1664, Lord Hatton sent him a commission of "Sergeant Major" (or Major as we

should now describe it) of a Regiment "consisting of eleven companies of trayned bands of souldiers in the Island of Guernsey" (1) of which Christopher Hatton was Colonel.

But the hatreds and jealousies engendered in the Island during the long period of Civil War were not to be allayed in a moment. As a type of the inquisitorial manner in which men's lightest speeches were reported to the English Government I will quote the following document from the English Record Office: "Certificate of certain seditious and factious words spoken by Mr. Bonamy of Guernsey, April, 1663."

"At the marriage of Mr. Nich. Carey with Mr. Havilland's daughter in Mr. Havilland's house at dinner time, there being some discourse about Government, Mr. Bonamy speaking in favour of Commonwealths and against Monarchy said that Rome had more prosperity under a Commonwealth than under a Monarchy, and that the Monarchy had been the undoing of it. And said moreover what had befallen the children of Israel by having a King.

Witnessed by Mr. DEANE (2)
 Mr. PETER CAREY, }
 Mr. JANNON, } Ministers."
 Mr. SALMON, }

Amias Andros now being settled in peace as Bailiff of Guernsey and living at his Manor House at Sausmarez, we must now turn our attention to the career of his son Edmund, or "Mun" as he was called in his family circle.

Edmund was born in London on December 6th, 1637, at a time when the troubles of Charles I. were coming to a crisis. His father soon realized that neither in Republican England nor Puritan Guernsey was there any opening for the son of a loyal Cavalier, so sent him to learn the profession of Arms under his uncle, Sir Robert Stone, who was then at the Hague in attendance on the exiled Court of Bohemia.

Edmund entered his uncle's troop of Cavalry and served under Prince Henry of Nassau from April, 1656 until 1659, and especially distinguished himself in the campaign against Sweden waged by the combined forces of Holland and Denmark, which terminated in the total defeat of the Swedish Army in the Danish Island of Funen.

The Continental Wars of the 17th Century were a hard school for a boy. Men did not shrink from inflicting needless torture, and were not daunted by the sight of revolting cruelties. Probably much of the hardness and want of sympathy men resented in Edmund Andros's later career may be put down to the training of his early years.

(1) Guille MSS.

(2) Dean de Sausmarez.

On Charles II.'s restoration in 1660 he joined his father in London, and was appointed Gentleman in Ordinary to the Widowed Queen of Bohemia; she came to England the following year and tradition says she then married the "Little Lord Craven," whose vast wealth and boundless liberality to the house of Stuart had made him one of the chief personages of that period. (1) But this rumour, much as we may wish to believe that a lifetime of devotion was finally rewarded by the attainment of its object, is discredited by the best authorities, (2) yet the fact remains that she lived in his house in Drury Lane from May 26th, 1661, until a fortnight before her death, which occurred on Feb. 23rd, 1662, and that she left him many family portraits and relics in her will. Three months after her death, on June 4th, 1662, Charles gave Edmund Andros a Commission as "Ensigne of the Company in our Regiment of Guards, wherof Sir John Talbot is Captaine." (3) In November 1666 we find him "desiring a license to transport 1000 tod of woole to Guernsey," a petition which was referred to the Lord Treasurer with a note to the effect that he was "a person that hath well deserved in his Majesty's service, and whom his Majestie is graciously inclined to doe a good turne to." (4)

A few years previous to the breaking out of the Dutch War, complaints had been repeatedly made by both English and Dutch of the frequent interruption they experienced in their foreign trade. These complaints related more especially to the hostile proceedings of the Dutch West India Company, and of the English Chartered African Company, unauthorized by their respected Governments, and they became more serious towards the end of 1663. In February 1664 Captain, afterwards Sir Robert, Holmes, with a squadron and some land forces, made a descent on the Dutch Settlements on the coast of Guinea; he captured several vessels and took some of their principal forts. From there he sailed to North America, and in August 1664 he reduced the Dutch Settlement called New Netherlands, which name he changed to that of "New York" in honour of the King's brother James, Duke of York. That autumn a new corps, called the "Admirals," was ordered to be raised; it was intended for sea-service, and was probably the origin of the Marine Regiments formed in the reign of Queen Anne. (5) In January, 1666, war was declared against England by both the

(1) Verney Papers (Camden Series) pp. 189-90.

(2) Genealogist. Vol. V. p. 405.

(3) Guille MSS. (4) Record Office—Car 11. No. 317 p. 226.

(5) See Colonel Mackinnon's "Origin and Services of the Coldstream Guards," Bentley, 1833, pp. 113-15.

French and the Dutch, and on February 11th, 1667, Edmund Andros received two commissions, severally appointing him Captain and Major of the "Regiment of Foot wherof Sir Tobias Bridge Kt. is Colonell, for our service at Sea, and known as the Barbadoes Regiment." (1)

The month following Colonel Jonathan Atkins, acting Governor of Guernsey, wrote a letter to Amias Andros, saying he had "received a letter from your son from Portsmouth" telling him "his soe sudden departure for the Barbadoes Expedition But since he must go I am glad he goes in so honourable a place a Major." (2)

This expedition was commanded by Admiral Sir John Harman and consisted of seven men-of-war and two fire-ships. They arrived in Barbadoes early in June where four more men of war joined them. When off St. Pierre they came in sight of the French, and after a battle lasting for two whole days finally destroyed the whole French fleet, leaving upon the beach of St. Pierre the wrecks of 33 sail of different descriptions. (3) After this victory peace was easily established and on July 21st the Treaty of Breda was signed proclaiming peace between the English, French and Dutch.

Edmund Andros passed unscathed through all this fighting, as we learn from a further letter to his father from Colonel Atkins dated Nov. 18th, 1667, in which he says—"I am glad you have assurance of Mun's being well." (4) During the following years he remained in the West Indies as Commander of the forces at Barbadoes, and while there he evidently became acquainted with Henry Morgan, the famous buccaneer, who was then waging war, more or less authorized, against Spain; capturing Spanish cities and Spanish galleons, burning, plundering, and murdering indiscriminately, but incidentally fighting his country's battles and guarding British Possessions. He feared neither man nor devil, and his cruelties have passed into a byword, but in a Tract written by a contemporary, (5) he is described as being "as great an Honour to our Nation and Terror to the Spaniards as ever was born in it." Morgan was subsequently knighted and made Governor of Jamaica, where he married the daughter of one of the principal inhabitants, and apparently he was a comrade if not a friend of Major Andros's, for his portrait, as well as those of his wife and daughter, were said

(1) Guille MSS.

(2) Tupper's History of Guernsey, 2nd Ed., p. 367.

(3) Chronological History of the West Indies by Capt. T. Southey.

(4) Tupper History, p. 363.

(5) An Historical Account of the West Indies by Dalby Thomas, published London 1690—Harleian Miscellanies, Vol. II., p. 363.

to have been in the latter's possession at the time of his death. ⁽¹⁾

In 1671 Edmund returned to England, and on Sept. 1st was given a commission in the newly constructed "Barbadoes Regiment of Foot." ⁽²⁾ He was then staying with his old friend Lord Craven, at Drury House in Drury Lane. Drury Lane was in those days an avenue of lovely elms leading to one of the best kept gardens in London, within the gates of which Drury House, an Elizabethan mansion, was situated. ⁽³⁾

Lord Craven and Edmund Andros must often have served together both at the Hague and in London, as both were attachés at the court of the Queen of Bohemia; so it is not surprising to find that in February 1672 Edmund married Mary Craven, kinswoman of Lord Craven, and aunt of the William Craven who afterwards inherited his title.

The month following Mr. Lyttleton wrote to our Governor Lord Hatton, thanking him for "ye noble present of ormers" and going on to say "Prince Rupert is about raising a regiment, Sir John Talbot, Lt. Colonel, and Andrews, Major, Sam Morris, Ensigne. The four companies come from Barbadoes are in that regiment and six more." ⁽⁴⁾ Accordingly on March 30th, 1672, Major Andros received yet another commission from King Charles, namely as "Major of Our Barbadoes Regiment of Dragoons, to consist of twelve troops, and each troop of eighty men . . . under the command of Our dear Cousin Prince Rupert." ⁽⁵⁾ It was this regiment which was the first among the British Army to "have and carry a bayonet or great knife" ⁽⁶⁾ which had been named after the town of Bayonne, and introduced into the French Army the previous year. In 1663 Charles II. had granted his Province of Carolina in America to the Earl of Clarendon, Lord Berkeley, Lord Craven, the Duke of Albemarle, the Earl of Shaftesbury, Sir George Carteret, Sir James Colleton and Sir William Berkeley, with power to create and confer titles of honour; and a constitution had been founded by which two classes of hereditary nobility with the titles of Landgraves and Caciques were created and granted possessions proportioned to their respective dignities. At this juncture these Proprietors exercised their Prerogatives in favour of Edmund Andros, and on April 23rd, 1672, they granted him a Patent under their hand and seal, conferring on him and his heirs, in

(1) See Guille MSS. "A Manuscript List of Sir Edmond Andros' Pictures."

(2) Guille MSS.

(3) *Lives of the Queens of Scotland, &c.*, by Stickland, Vol. VIII., p. 273.

(4) Hatton Correspondence, Camden Series, Vol. I., p. 82.

(5) Guille MSS.

(6) Mackintosh's *Origin of the Coldstream Guards*, pp. 135-6.

reward for his distinguished services, the title and dignity of Landgrave, with four Baronies containing forty-eight thousand acres of land, at a quit rent of a penny an acre. ⁽¹⁾ Apparently neither he nor his heirs ever seem to have benefited by this munificent gift, for among the Guille MSS. is a letter, dated August 7th, 1749, written by John Guille of St. George, the husband of Elizabeth Andros, daughter of Mr. John Andros, nephew, executor and administrator of Edmund Andros's property. In this letter Mr. Guille says: "I have consulted persons who are of oppinion ye Patent is valid and good, that wee may enjoie ye Lands, go by ye name and stile of Barons Landgrave, and have ye Coat of Arms—A SUN at Mid Daye with this motto *Sol Clarior Astris* (ye Sun is brighter than ye Stars), but so much grandeur don't become our purs, and ye Lands not having been improved are not thought worthy our acceptance, so that we have laid aside all further thought about it."

The protection and hospitality Sir George Carteret had shown Charles the Second when Prince of Wales, and his brother James, Duke of York, while refugees in Jersey, were rewarded by the latter on June 24th, 1664, by a grant of large tracts of land in North America to be henceforth called New Cæsarea or New Jersey in his honour. We know that one of our earliest Empire-builders, Sir Walter Raleigh, was Governor of Jersey during the latter part of Queen Elizabeth's reign, and possibly he may have interested some of the leading people in the Island in his projects of conquest and colonization in the unknown lands of America; for, as early as 1650, Sir George Carteret had fitted out a ship for Virginia with the intention of planting and civilising some part of the country, and the gift of these lands enabled him to put this project into execution. Sir George, being then sixty-five years of age, appointed his distant cousin Philip de Carteret, Seigneur of La Hougue, to be Governor of his Province, and he arrived there in the *Philip*, in July 1665. A letter from James de Havilland to Lord Hatton, written from Guernsey in January 1671, mentions a ship having gone to Virginia "with severall people of the island to inhabit there." ⁽²⁾ Philip de Carteret was subsequently involved in disputes about local rights with the original proprietors, and returned to England in 1672. During his absence the Dutch reduced the country, and it was not until after the Peace of 1674, when it was restored to the English, that he returned to govern his cousin's dominions. ⁽³⁾

(1) New York Colonial MSS., Vol. II., p. 140.

(2) British Museum, Add. MSS. 29553, f. 267.

(3) Armorial of Jersey by J. B. Payne, pp. 114-5 n.

Edmund Andros evidently remained in Europe for the first year of his married life, for in the autumn of 1672 he was sent on a diplomatic mission to Sweden. In the British Museum is another letter⁽¹⁾ written by Mr. James de Havilland of Guernsey to Lord Hatton, dated from London on Dec. 5th, 1672. In it he says:—"This day came newes from Major Andros from Stockholme, whoe writes that he did hope to be here as soone as his letters, for that he is expected here this weeke, the wind being large to come from Gottenbourgh. It is reported at Court that he hath spedd well and performed his business very well; what it is, is not certainly known, ouely some conjecture that it is about ye marriage of his Royall Highness the Duke of Yorke with the Princesse of Holstein, a near relation of the King of Sweden's."

Edmund then returned to Barbadoes, where he remained until the Treaty of Westminster, dated 19th of February, 1674, by which treaty Peace between England and the Netherlands was concluded, one of the principal provisions being that the Colony of Surinam was ceded to the Dutch in exchange for the Province of New York.

Four days later Charles II. issued this fresh commission to Andros.⁽²⁾

"Whereas wee have resolved to send the four remaining Companies of our Barbadoes regiment into Our Kingdome of Ireland to be entertained in our Service there; and we being pleased as a particular mark of Our Gracious acceptance of the Good Service performed by the said Regiment to continue the same: Wee, therefore, reposing especiall Trust and Confidence in your Loyalty, Courage and prudent Conduct, doe hereby constitute and appoint you to be Major and Captaine of our said Barbadoes Regiment of Foot . . . Whitehall, 23 Feb., 1673-4."

Meanwhile Amias Andros was in failing health, and Edmund, taking time by the forelock applied to the King for a reversion of his father's office of Bailiff of Guernsey. This was granted to him in January 1674, and Amias Andros died in the Spring.⁽³⁾

(1) Add. MSS. 29, 553, f. 231.

(2) Guille MSS.

(3) Inscription in St. Martin's Church:—

"Ici repose le Corps d'Amice Andros Ecuyer, Seigneur de Sausmarez et Châtelain de Jerbourg, Echanson héréditaire du Roy d'Angleterre en cette Isle de Guernesey, Lieutenant de Ceremonies à la Cour des Rois Charles 1er et Charles 2me de Glorieuse Memoire, Bailly de la Cour Royale, Major General des forces en cette ditte Isle.

Decedeé au Seigneur le 7me jour de Mois d'avril, l'an 1674, aagé de 64 ans.

This date does not seem to be correct, as we see by a letter addressed by five of the Jurats to Lord Hatton (Brit. Mus., Add. MSS., 29554, f. 262), dated Guernsey, 29th March, 1674, which says:—"The sudden death of Mr. Baily, who died last night at Sausmarez, about nine or tenne of the clocke at night, as he sat in his chair in his study is ye cause we have this daye dispatched a boat on purpose to give your Lordship . . . notice of it . . . [having] . . . a due regard to your Lordship's Prerogative of Nominating to ye Office of Bailly granted to you by his Maties Letters Patent; and to beseeche that he may have ye due and fitt

The following account of his funeral was written by Mr. William de Beauvoir, of Guernsey, to Lord Hatton, and is to be found in that inexhaustible storehouse of Channel Island gossip, the Hatton correspondence in the British Museum. ⁽¹⁾

April 5th, 1674.

“ . . . We buried Mr. Baily Monday last in St. Martin's Church, where fryer des Hayes made y^e funerall harangue. His text, 'The Crown is fallen from our Head,' little or not at all followed by him in y^e usual way of preachers, but altogether a high and transcendent Panogyrick upon y^e deceased. Not only terming him y^e Crowne of this Country, but y^e Shepherd, y^e Captain General, y^e Pillar of Church and State, a personage of a great weight and eminency, profound wisdom, prudence, knowledge, and experience in his office (that we should know too soone by y^e sad example of his successors). That honorable lord lying dead before our eyes who all his lifetime had studied nothing but y^e welfare peace and concord of his Country, and setting out soe highly his services to our two last Kings, and his great loyalty, that many in y^e assembly thought he could not have said more of Godfrey de Bouillon or of y^e Duke of Albemarle. 'But,' saith y^e fryer, 'We have this great comfort in this our unspeakable loss, that y^e honorable deffunct hath left worthy offspring of his most noble and illustrious family.' And many words to this effect, which made many sober men say that y^e good father Des Hayes did much exceed y^e bounds of truth and modesty.”

By that time Edmund was in England and, much to the discomfiture of the many applicants for the vacant office of Bailiff, produced his Patent. We can imagine what a chorus of indignation this must have aroused, as naturally the Island was full of claimants for the billet, and the Governor, Lord Hatton, had been besieged by all the local candidates to use his interest on their behalf. Lord Hatton was very offended that he had not been consulted in the matter, and sent a Petition to the King, dated 27th of May, 1674, claiming “that the power of disposing of the office of Bailiffe belongeth by right to the Governor by vertue of His Majesty's Letters Patent.” This claim was referred to the Privy Council who decided against him and ordered that in future the King alone and not the Governor should appoint the Bailiff, the Dean, the Procureur and the Comptroller. Accordingly on July 6th Edmund Andros was sworn-in as Bailiff and according to the Ordonnance of May 7th, 1673, not only took the oath of allegiance and supremacy but signed his name to the declaration denying the doctrine of

qualifications of *ability, prudence, honesty*, and of his being *constantly abiding in this place*, as our lawes and ancient customs require it.

(Signed)

G. DE BEAUVOIR,
DANIEL DE BEAUVOIR,
JAMES DE BEAUVOIR,
W. LE MARCHANT,
ISAAC CAREY.”

(1) Add. MSS., 29554, f. 275.

transubstantiation. He also produced a certificate, signed by Mr. Peter de Jersey, Vice Dean of Guernsey, and by Nicholas Tourtel and Peter Mauger, Churchwardens of St. Martin's, and witnessed on oath by Messrs. William Andros and Peter Dobrée, that on the previous Sunday he had partaken of Holy Communion in St. Martin's Church according to the rites of the Church of England.

Of course this appointment was merely a sinecure and Edmund knew it, for four months before this (March 30th, 1674), King Charles had written to the States General at the Hague, desiring them that they would "order the dispatch as early as possible of the necessary instructions to your Governor or Commandant of the place called New York in the West Indies (*sic*), to surrender it to Sieur Edmond Andros." (1)

Two months later (May 30th) he had been made Captain "of a Company of Foot to be in garrison in New York in America." (2) His subordinate officers being "Anthony Brockholes, 1st Lieut., Christopher Billop, Lieut., and his own brother-in-law, Cæsar Knapton, Enseigne." (3)

Meanwhile King Charles had renewed the gift of his American dominions to his brother the Duke of York, and he it was who granted Edmund Andros the Patent, dated July 1st, 1674, of the Governorship of New York. In it the Duke says:—"Whereas I have conceived a good opinion of the integrity, prudence, ability and fitness of Major Edmund Andros . . . I have therefore thought fitt . . . to constitute him my Lieut^t and Governor." (4)

On August 6th, 1674, before sailing for America, Edmund Andros did homage to the King in person for his Seigneurie of Sausmarez, as his father had done before him; and on the 17th of the month he made the following provisions for the Civic Government of Guernsey:

"Know all men by these presents—That whereas I have constituted Charles Andros, Esq., D'Anuille to be my Lieut. Bayliffe of his Maties Court Royall in his Island of Garnsey. And being commanded by his Maties and Royal Highnesses' service to New York in America. Doe hereby constitute and appoint John de Sausmares, Esq., now one of the Juratts of the said Court to succeed the said Charles Andros as my Lieut^t in case of death, and alsoe to supply his place as my Lieut^t if the said Charles Andros shall happen to be necessarily absent or incapacitated by sicknesse or otherwise during such absence

(1) Documents relative to the Colonial History of the State of New York, Vol. II., p. 544.

(2) and (3) Guille MSS.

(4) Guille MSS.

or incapacity. In witesse whereof I have hereunto putt my hand and seale this 17th day of August 1674.

E. ANDROS,

in the presence of

Ra : Marshall, Wm. Craven, Samuel Gagnepain, Cæsar Knapton. ⁽¹⁾

On November 1st Edmund arrived at New York in the *Castle Frigate*, accompanied by his wife and personal staff. It is impossible in this limited space to recount in detail all the difficulties he met with in this new command. He was hampered by very stringent orders from England, which he promptly enforced, thereby causing much friction between himself and the Dutch merchants, who were then the principal inhabitants of the colony. Mr. Woodrow Wilson, the American President, describes him as being "a bluff soldier, as honest as he was direct and determined, not a man to originate a policy of his own, but sure to do what he was commanded to do very absolutely, without tact, or scruple, or hesitation, with the rough energy of a man who was no politician, only a soldier." ⁽²⁾

While at the Hague in his boyhood, Edmund would probably have had some experience of Dutchmen and their ways, for then as now :—

"In matters of business the fault of the Dutch,
Is giving too little and asking too much!"

And we know, from his own letters to Secretary Blathwayt ⁽³⁾ that his chief difficulty lay in the reluctance of the Dutch Colonists to agree to the Revenue Laws, upon which Blathwayt, as one of the Lords Commissioners of Trade, was naturally very insistent.

After six months of office the Duke of York wrote to him (April 6th, 1675), that he was "well satisfied with your proceedings hitherto." ⁽⁴⁾ On November 17th, 1677, Edmund Andros and his wife left New York and proceeded to England on a short visit. Before sailing they stayed a night with Governor Carteret in New Jersey. They did not arrive in England until 1678, and Edmund was then knighted by King Charles as a token of approval of his administration. On May 27th Sir Edmund and Lady Andros again set sail for New York in the ship *Blossom*, Richard Martin of New England, Master. They were accompanied by the Rev. Charles Woolley, A.M., as Chaplain, William Pinhorne,

(1) Guille MSS.

(2) "Colonies and Nation," Harper's Magazine, 1901.

(3) "An Old Time Colonial Secretary."—*Fortnightly Review*, Sept., 1910.

(4) New York Colonial Documents III., p. 227.

James Graham, James White and John West, among their personal suite, while other merchants and factors were passengers in the same boat. They were nine weeks on board, arriving at New Jersey on the 7th of August. Sir Edmund came primed with fresh instructions as to the necessity of rigidly enforcing the Customs duty, and was also commanded to ensure complete liberty of conscience, thus menacing the superiority of the Puritan oligarchy then in power. Besides this he had to show a firm front to the encroachments of the French, of the Indian aborigines, and even of the other English Colonial officials. Sir George Carteret died in January, 1679, and immediately afterwards Edmund Andros challenged outright the authority of Philip de Carteret, Governor of New Jersey. Philip had been, as we know, Sir George Carteret's delegate in this province, and, as early as 1676, we find the Duke of York's Secretary, Sir J. Werden, writing to Andros ⁽¹⁾ that it was realized in Court circles that "Sir George Carteret, for whome the Duke hath much esteeme" was apt to presume on his prerogative "which you have all along asserted in the Duke's behalfe." Motives of gratitude and affection on the part of the Duke's entourage led them to "soften things all we may not to disturb his choller (for in truth the passion of his inferior officers soe far infects him as puts him on to demands which he hath noe colour of right to), demands which, if granted, though intended but as favours now, may, if confirmed, redound too much to ye prejudice of yo^r Colony."

But Edmund Andros was not the man either to allow his Master's rights to be encroached upon, or to soften down unpleasant facts for fear of hurting other people's feelings; therefore, in spite of his relationship to the de Carterets, and regardless of consequences to himself, he accused Philip de Carteret of acting without legal right within the Duke of York's territory "to the great disturbance of his Majesty's subjects." Finding that Philip refused to yield, on April 30th, 1680, he deposed him from his Government and carried him prisoner to New York, and himself assumed the authority of Governor in the New Jersey towns. But the de Carterets had too much interest at Court for this to be tolerated; Sir Edmund was officially rebuked and Philip de Carteret reinstated, and on the 24th May, 1680, Sir Edmund was ordered home to account for his administration. He sailed for England on January 11th, 1681, and in his answer to his accusers, he pointed out the facts that, during his term of

(1) New York Colonial Documents III., pp. 209-10.

office, New York had increased in size, population and trade, "and the colony improved beyond any of our neighbours. I do find all the imputations upon myself to be totally untrue." (1)

He evidently succeeded in convincing the King of his innocence for he was made a gentleman of the King's Privy Chamber forthwith.

On Sir George Carteret's death in 1679 the Island of Alderney came into the Market, and in 1693 Sir Edmund Andros and Dame Mary his wife bought the remainder of the lease from his widow and heirs, and immediately volunteered to surrender their rights to the Crown. Not to be outdone in generosity, Charles II. issued a fresh Patent, dated April 28th 1683, granting Alderney to Sir Edmund and his heirs for the period of ninety-nine years for the purely nominal rent of thirteen shillings per annum. (2)

On May 31st, 1684, Sir Edmund appointed Thomas Le Mesurier, of Guernsey, to be his Lieut.-Governor of Alderney. This Thomas had married Rachel de Sausmarez, daughter and heiress of Dean de Sausmarez. Their son, John Le Mesurier, married Anne Andros, sister and eventual heiress of the George Andros to whom Sir Edmund bequeathed his island of Alderney. It was in this way that the Le Mesuriers became hereditary Governors of Alderney.

Meanwhile Philip de Carteret had also died and certain of Sir George's lands in America had been bought in Feb., 1682, by William Penn and eleven Quaker associates for £3,400, and incorporated in the province of Pennsylvania.

Sir Edmund was still in England and had again taken up his abode with his friend, Lord Craven, in Drury Lane. He was there on Feb. 6th, 1684, when reckless, witty, pleasure-loving King Charles was "such an unconscionable time in dying," and it was there that the States of Guernsey wrote to him on the 27th of the month announcing that Charles's brother and heir James II. had been proclaimed in the Island "à l'audience de la Cour et par les Carrefours de la ville." They added that they were enclosing a loyal address to the new King which they requested him as their Bailiff to present to his Majesty, incidentally remarking "Et de nous procurer d'Elle en cette occasion tout l'avantage que vous pourrez." (3)

But James's position as King was somewhat unstable; the Duke of Monmouth, Charles II.'s illegitimate son, even in his father's lifetime had conspired against the throne and

(1) Guille MSS.

(2) Clarke's Guernsey Magazine, July, 1888.

(3) Guille MSS.

had had to be banished, and on James's accession his energies redoubled. On June 11th, 1685, he landed at Lyme at the head of an invading force, was proclaimed King at Taunton on June 20th and was finally defeated at Sedgemoor on July 6th. Sir Edmund was evidently engaged in the campaign against the rebels, as on July 30th he was promoted to be Lieut.-Colonel of the Regiment of Horse commanded by Robert, Earl of Scarsdale, and known as the Princess Anne of Denmark's Regiment. But he was not to remain much longer in England. On the 1st of August, 1686, James II. created him Governor, Captain General, and Vice-Admiral, of Massachusetts, New Hampshire, Maine, New Plymouth, and certain dependent territories, and soon afterwards, in addition, of Rhode Island and Connecticut successively.

This fresh occasion for the use of an official seal probably led to his application for a formal registration of his arms, which was granted, as we know, on Sept. 23rd, 1686.

Sir Edmund and his wife arrived at Nantasket in the *King Fisher*, 50 tons burthen, on December 19th, 1686. When we realize that the tonnage represents a vessel a little bigger than the *Fawn*, but considerably smaller than the *Alert*, we can realize the misery and discomforts which they must have endured during these long voyages amid equinoctial gales across lonely, unlit, uncharted seas, at the mercy of winds and tides.

A few days after their arrival they were received at Boston "with great acclamations of joy." But Sir Edmund's triumph would have been damped had he known that his mother lay dying in her Manor house of Sausmarez, and on Christmas Day, 1686, she died. ⁽¹⁾

Sir Edmund's popularity soon waned. The King had again given him very definite and unpalatable instructions to carry out, and he did not shrink from incurring personal unpopularity or blame in obeying orders. He began by forbidding any printing presses within his jurisdiction, by proclaiming an entire liberty of conscience to Puritans and Catholics alike, and by levying fresh taxes and enforcing the Customs duties with renewed vigour. He then proceeded to

(1) Below her husband's monument in St. Martin's Church is inscribed "En ce lieu repose le corps de Madame Elizabeth Stone, femme du susdit Mr. Andros, native du Royaume d'Angleterre, sœur de Messire Robert Stone, Chevalier, Echanson de la Reyne de Bohême, Capitaine d'une troupe de Cavalerie en Hollande; laquelle partagea avec son Mary les troubles d'exile auxquels il fut exposé during plusieurs années au Service de Charles 1er et Charles 2me de Glorieuse mémoire, Rois d'Angleterre. Elle a vescu avec son Mary 42 ans, et a esté mère de 9 enfans: Elle deceda au Seigneur le 25e Jour du Mois de Décembre, l'an 1686, aagée de 73 ans."

revoke the Charters of Massachusetts and the other colonies. There is a well-known story to the effect that, when at Hartford, in October 1687, he intended to take the Connecticut Charter bodily away with him, but when, at his command, it was brought in and laid on the table, the lights were suddenly blown out, and when they were re-lighted the Charter was gone. It had been taken away by Captain Wadsworth and hidden in the hollow of an oak tree. This tree stood for nearly 170 years after, and was always known as the "Charter Oak." (1)

On this occasion Sir Edmund wrote to Secretary Blathwayt as follows:—"I received his Maty's comand for annexing Connecticut, which, having communicated to the Councill, I resolved as necessary. I sett out as soon as I could and well accompanied for said service, and ye first Magistrates being there, removed sd colony under Government accordingly." (2)

On April 7th, 1688, New York and New Jersey were also placed under his command, and he deputed Francis Nicholson there to act as his deputy.

Sir Edmund was a shrewd man of business as well as being a good soldier and he had long seen the political value of friendship with the American Indians. While Governor of New York he had himself gone to the stronghold of the Mohawks and made terms with the Chiefs in person; and in September, 1688, he hastened to Albany to conclude a Treaty of Peace with the Five Nations of Indians.

But hitherto they had broken treaties with impunity, and with the proverbial treachery of the Red man they continued to raid and plunder British territory and to threaten its inhabitants with torch and tomahawk. On hearing this Sir Edmund at once ordered General Winthrop to march against them; "but he" (wrote Secretary Randolph to the Lords of Trade in England) (3) "unwilling to serve his native country and others also refusing that command, the Governor himself undertook that difficult fatigue in the depth of winter. . . . Upon the first frost he was out a walk at the head of 120 men, marching afoot thro' dismall and almost impassable swamps." In spite of all these hardships and his small following, he returned victorious to Boston in March, 1689.

In justice to those who refused to accompany him we must remember that, to the men of the 17th Century, the Indians were held to be Magicians as well as devil worshippers, so that

(1) Eggleston's School History of the United States.

(2) An Old Time Colonial Secretary, *Fortnightly Review*, Sept., 1910.

(3) New York Colonial Documents IV., p. 860.

to invade their especial territories involved spiritual as well as bodily danger. But Sir Edmund had taken up "the white man's burden" two centuries before Kipling put it into words:—

"To wait in heavy harness
On fluttered folk and wild—
Your new-caught sullen peoples
Half devil and half child."

But other troubles now began to gather around him thick and fast. His wife, who had been his constant companion through so many vicissitudes, died soon after his return to Boston. We are told that he gave her a most impressive funeral, for she was "buried by torch-light, the corpse having been carried from the Governor's residence to the South Church in a hearse drawn by six horses and attended by a suitable Guard of Honour."⁽¹⁾ But her husband had no one to sympathise with him in his grief, for his unpopularity continued to increase. Undoubtedly he had been unnecessarily arbitrary and harsh on occasions and showed an ugly temper when opposed, so that as soon as the news arrived of the revolution in England, by which His Royal master James II. had been successfully deposed by William of Orange, the people of Boston resolved to mutiny in their turn. This rebellion broke out in April 1689, and, while presiding in the Council Chamber, Andros was set upon, bound, and imprisoned in the Fort, while the same fate befel his delegate, Nicholson, in New York.

For nine months Sir Edmund languished in the Boston prison; once he managed to escape from it and to get as far as Rhode Island, but he was speedily recaptured and led back into captivity, reaping

"the old reward
The blame of those ye better,
The hate of those ye guard."

On December 10th, 1689, he, Nicholson, and a few loyal adherents, with certain of their accusers, sailed for England, summoned to appear before a Court of Enquiry which was appointed by William III. It must have been very bitter to him to feel that he was returning as a deposed prisoner from a command that only three years previously he had assumed amid general acclamations; and, brave man though he was, he must have felt that the Americans had some grounds for believing that William of Orange would be particularly unrelenting to such an ardent partizan of the Stuarts as he had always been. Directly after he had sailed his arch-enemy,

(1) New York Colonial Documents II., p. 741.

Jacob Leisler, wrote to the Bishop of Salisbury a letter artfully calculated to prejudice the Court still further against him, by saying that "Andros did continue praying for the Prince of Wales, and that God would give King James victory over his enemys."⁽¹⁾

It has hitherto been stated that, on arrival, Sir Edmund was released without examination, but among the MSS. at Montville (now alas ! destroyed in the fire last year), I found the following account of the trial. It is unsigned, but was evidently compiled from notes taken on the spot by one of Sir Edmund's old friends or relations, probably a Priaulx or a Le Marchant.

"Memorandum of the Proceedings in the Council Chamber before the Committee of the Plantations, between Sr Edmond Andros, the other Gentlemⁿ and the Agents for N. England.

"April 1690. Sr Edmond and the others arrived the 6th Aprill
 ,, 7th. to London, and the 7th d^o there issued a summons from ye Lords of the abovesaid Committee unto the Agents which was served upon them by one of the Messengers of the Councill on the Royal Exchange, for to appeare at the Councill Board
 ,, 10th. on thursday the 10th of the same instant, for to put in what they had against Sir Edmond &c., which they accordingly did, but prayed time for to put their complaints in forme, sayeing they were but newly arrived from the sea, and had not time to prepare. Accordingly itt was order'd that they should have time given them to next
 ,, 17th. thursday, be ye 17th ditto, also to file their Accusations with ye Clerke of ye Councill on the Monday before; that Sr Edmond might have a copy and time to answer, as also that the matters should be argued by two Councill^{rs} only on each side. T'was also ordered that the Agents should file their Credentials, by which they were empowered to come in behalf on N. England. They accordingly filed with ye said Clerke what they could say, but were wiser than to file their credentials. The Day appointed Sr Edmond &c. appeared with their Councills, as also the Agents with theirs, the objections being read, their Credentials were demanded but none was filed, tho' they had promised to do itt, and had gave in their Names as Agents of New England the thursday before; but now denyed they were any-ways concerned for New England, and that if

(1) New York Colonial Documents III., p. 855.

Sir Edmond &c. had nothing to say against them, they had nothing against him, and as for the said objections, they would not owne them, but said itt was the people in Generall of N. England that had taken up Armes and put Sr Edmond &c. and ye others in prison ; the which made the Lords laugh. So my Lord President of the Councill said, Wee then sett here like Children, here is accusation brought against these Gentlemⁿ and hath been filed in the office and now will not be owned. Therefore wee must take a Minute that there is an Accusation or objection brought against Sr Edmund Andros &c. by nobody, and so commanded the Chamber to be cleared.

„ 25th. And the next thursday itt was ordered that Sr Edmond and the other Gentlemen should be discharged.

„ 26th. The 26th of the same month Sr Edmond and the other Gentlemen went to Kensington to kiss the King's hand, being introduced by many great Lords and Noblemen, the King, hearing they were come, immediately left all the Court and came out to them, and they all kissed his hand. The King told them that he would take care of of them all, and said he rememberd hee had seene Sr Edmond severall times. Sir Edmund is almost every day with the King and is sent for by him often. The Agents are never since seen about the Court and no newes of the Charter.”

Endorsed—“ Account of the Proceedings of Sr Edmond &c. and ye Agents of N. England.”

William of Nassau was a brave man himself and appreciated bravery and loyalty in others. He evidently had met Edmund Andros while the latter was serving in Sir Robert Stone's Troop of Cavalry under the Dutch Flag, and remembered the courage he then displayed. Sir Edmund also had a powerful advocate in Secretary Edward Randolph who was King William's Commissioner of Revenues in America. He wrote to the Commissioners of the Board of Trade with reference to the complaints of the people of Boston, saying :—“ Notwithstanding all the pretensions of grievances mentioned in their papers, and Cryes of oppression in the Gov^{rs} proceedings, it's not the person of Sir Edmund Andros but the Government itself they designe to have removed, that so they may freely trade throughout the World, without paying customs.” Randolph also mentioned that Sir Edmund had forbidden their profitable occupation of

“harbouring pyrates” and stopped their even more profitable recreation of sending out privateers to plunder the West Indies.

Sir Edmund being quite restored to favour, now embarked on a second marriage; in August, 1691, he married Elizabeth Crispe,⁽¹⁾ daughter and co-heiress of Thomas Crispe of Quekes, in Kent, and widow of Sir Christopher Clapham, of Clapham, Yorkshire. The brother of Sir Edmund's first wife—Sir William Craven—had married a daughter of Sir Christopher Clapham, so that Sir Edmund probably met his second wife while staying with the relations of his first.

In July, 1692, undaunted by memories of ancient wrongs, he returned to America, as William III. had made him Governor of Virginia, and subsequently added Maryland to his jurisdiction.

King William was a far cleverer statesman than the Stuarts had ever been, and therefore did not hamper his officials with a multitude of irritating orders and regulations as his predecessors had done. Therefore Sir Edmund, having more or less a free hand, was much more popular in this new appointment than he had been before.

He arrived in Virginia on October 16th, 1693, and brought out with him the Charter of William and Mary College, of which he laid the foundation stone. He honestly devoted himself to the interests of the colony, encouraged the cultivation of cotton, improved the methods of administration, and stimulated the life of the people by his own eager and adventurous spirit. His innate habits of order and method were exemplified in his care of the early records of Virginia. He found them in utter confusion, torn, soiled and neglected. He at once ordered steps to be taken for their re-arrangement and better preservation, and when the States House was burnt down had them carefully sorted out and registered. By these acts and his genuine interest in the welfare of the people he would have succeeded in gaining general esteem and affection, had he not unfortunately fallen foul of Dr. James Blair, Principal of William and Mary College. Dr. Blair was as hot-tempered as Sir Edmund, and spoke his mind in as choleric and outspoken a way. He was the representative of the Colonial Church authorities under the supremacy of the Bishop of London and the English Church; and through their united influence Sir Edmund was recalled to England in 1698.

(1) Marriage License—Faculty Office. Archbishop of Canterbury, Andrews, Sir Edmund Andros, Knight, of St. Martin-in-the-Fields, Co. Middlesex, widower, and Elizabeth Clapham of St. Paul's, Covent Garden, Middlesex, widow. Alleged by Ralph Marshall of St. Paul's aforesaid, Esq., at St. Margeret's, Westminster. 3rd August, 1691.

He does not seem to have visited Guernsey for any length of time, but continued to carry on his Bailiffship by deputy. On May 4th, 1700, the Lt. Bailiff and Jurats sent him a letter, addressed to his house in Denmark Lane, near St. Giles's, gratefully acknowledging their past obligations to him and asking him if possible to mitigate the burden on the Islanders of having an English garrison permanently billeted upon them. In January, 1701, they again wrote to the same address informing him that the Court House, which was then situated at the Plaiderie, was falling into ruin, and that experts, who had been called in to pronounce upon its state of repair, agreed that it was positively dangerous to assemble there. Upon this the Court had been obliged to hire the parlour of the widow of Sieur Nicolas de Quetteville at the rate of 169 livres tournois (about £12 sterling) for a year, by which time they hoped that a new Court House would be built. They went on to say that as of course the King should supply his own Court House, they had applied to the Governor—as his representative—to direct a new house to be built with all possible speed, and meanwhile, to defray the rent of Widow de Quetteville's parlour out of the Royal Exchequer.

On April 7th, 1701, Sir Edmund presided in person in the Royal Court, and entered into the question of the Island's defences. Castle Cornet, after the explosion of 1672, in which the tower had been destroyed, was still virtually in ruins, the guns everywhere were rusted and decayed and the whole Island lay open to attack. For by this time the War of the Spanish succession had broken out, and Europe was aflame from end to end, while the islanders were fitting out privateers as fast as they could and thus laying the foundations of our prosperity. After undertaking various measures to renew our defences and replenish our armaments, Sir Edmund returned to England and still continued to delegate his duties as Bailiff; and on Charles Andros's death in July, 1701, appointed Eleazor Le Marchant deputy Bailiff in his stead, yet, notwithstanding his evident disinclination to live in the Island, on Feb. 5th, 1704, Queen Anne appointed him to be Lieut.-Governor of Guernsey, as is seen by the following commission :

"Anne &c. To our trusty and wellbeloved Sr Edmond Andros Knt. Greeting. Wee reposing particular trust and confidence in your Loyalty, Courage, Experience and prudent conduct, do by these presents constitute and appoint you to be our Lieut Governor of our Island of Guernsey, in the absence of our right trusty and wellbeloved Cousin Christopher Viscount Hatton, our Governor of our said Island Given at our Court at St. James's the 9th day of February 1703-4." (1)

(1) Guille MSS.

Such an appointment of the Bailiff of the Island to act as Lieut.-Governor was almost unheard of, and it was evidently pointed out to the authorities that it was impossible for the same man to undertake the two sets of duties at the same time, so on March 7th, 1704, Queen Anne issued an order⁽¹⁾ which must be considered almost unique among our official archives. This was to the effect that "whereas Charles II., in 1672, had made Sir Edmund Andros Bailiff of Guernsey for life, and that he had constituted Eleazar le Marchant, Esq., to be his Lieut. and whereas we have been pleased to appoint the said Sir Edmund Andros to be our Lieut.-Governor. . . . Now that the said Sir Edmund may attend our service as our Lieut.-Governor there wee do hereby, at the humble desire of the said Sir Edmund, dispense with the said Sir Edmund executing of the office of Bailiffe during the time he shall be our Lieut^e Governor, and do hereby approve of the nomination of the said Sir Edmund . . . of Eleazar le Marchant to be his Lieut. Bailiffe there, to enjoy all the Powers and Profitts belonging to the Bailiffe during such time."

Sir Edmund was now sixty-seven years of age, years spent in fighting, voyaging and undergoing hardships all over the world, and the energy and initiative of his American days had gone by.

The islanders, absorbed in their petty quarrels and insular jealousies, must have appeared dull and insignificant to a man accustomed to "the lore of men that ha' dealt with men in the new and naked lands," and his absences from the Island seem to have grown longer and longer. On Lord Hatton's death in 1706 his appointment as Lieut.-Governor ceased, and he resumed his Bailiffship, and it was as Bailiff of the Island that on December 31st, 1712, he signed a letter to Queen Anne from the States of Guernsey congratulating her on the victorious termination of the glorious campaign in which Marlborough had won the victories of Blenheim, Oudenarde and Malplaquet. In this letter is expressed the pious hope "qu'il n'y ait plus dons vos Etats n'y Papiste n'y Nonconformiste, come il n'y en a aucun parmy nous."⁽²⁾ This was his last public action of which we have any record, and on Feb. 27th, 1714, the greatest Guernseyman of his day, died in London at his house in Denmark Hill.

His third wife, Elizabeth Fitz Herbert,⁽³⁾ apparently predeceased him, and as he had no children his property was divided amongst his nephews and nieces.

(1) Guille MSS.

(2) Actes des Etats, Vol. II., p. 123.

(3) Jacobs' Annals of Guernsey, Sequel p. 103.

He was buried at St. Anne's, Soho, and the bill for his funeral expenses, of £80 16s. 6d. sterling, is to be found among the Guille MSS.

A BILL OF FUNERAL CHARGES FOR THE INTERM^T OF THE HON^{BLE}
SIR EDMOND ANDREWS, K^{NT}.

	£	s.	d.
For a double Elm Coffin, covered with Broad Cloth and lined and Ruffled within, and sett off with the best Gilt nails and plates of the same with a large plate of Inscription on ye Top	5	00	0
For a superfine shroud, sheet, pillow and gloves	1	15	0
For hanging two rooms, stairs and passage in deep mourning.	2	00	0
For 50 large Silver sconces	2	10	0
For 6 large Silver Candlesticks	0	06	0
For 37 pounds of Wax Candles for the Sconces and Candlesticks	4	12	6
For a large velvet Pall	0	10	6
For a black Lidd and Plumes of Feathers	1	00	0
For 10 Silk Escutcheons	2	00	0
For 6 dozen of Paper Escutcheons	3	12	0
For 17 of the best Hatbands	2	19	6
For 21 pairs of shammy gloves	3	13	6
For 6 a la mode Scarves of the Pall Bearers	3	18	0
For 6 Cloaks	0	06	0
For 2 Porters, with long gowns, scarves and hatbands	0	10	0
For 17 plumes of Black feathers for the hearse and horses ...	2	10	0
For 24 Buckram Escutcheons for the hearse and horses	2	08	0
For 12 large Shields and six Shafferoons	2	02	0
For 12 large Pencils	1	16	0
For 36 small Pencils	1	16	0
For 6 Men on Horses	1	10	6
For 66 white wax branch Lights.....	13	14	0
For 66 Men to carry them	3	06	0
For 20 Hatbands for Coachmen and Horsemen.....	2	00	0
For 13 Cloaks for Coachmen and Horsemen	0	13	0
For 3 pair of the best dyed Gloves.....	0	06	0
For 26 pair of Dyed Topt Gloves	1	19	6
For the Church Duties	7	13	6
For the Affidavit	0	00	6
For a Hearse and six Horses	1	00	0
For 6 Mourning Coaches and 6 Horses each	4	10	0
Totall.....	£80	16	6
Recd. 17lbs. wt. of ends of Wax Candles	0	17	0
Remains due.....	£79	19	6

May 18th, 1714, Received then of
John Andrews Exectr of Sr Edmond Andros in full of this Bill and all
Demands.

John filler.

Thus with the elaborate "pomp and circumstance of woe" of the 18th century was Sir Edmund Andros laid to his rest.

Having no children, by his will ⁽¹⁾ he bequeathed to his eldest nephew, John Andros (son of his brother John and Anne Knapton), who had married his cousin, Elizabeth Andros, the whole of his real and the residue of his personal estate in Guernsey and America, with the proviso "that my said nephew John, or his heirs, shall within two years of my decease build a good suitable house on or at the Manor of Saumares in Guernsey."

In fulfilment of this desire the present house was built, and remained in the Andros family until 1748, when Charles Andros, son of this John, sold it and the Manorial rights to John de Saumarez, and thus it reverted into the hands of its original possessors. John Andros's daughter, Elizabeth, married Mr. John Guille, Seigneur of St. George, whose letters on the subject of the Carolina property have already been quoted.

Sir Edmund bequeathed the Island of Alderney to his nephew, George Andros, son of his brother George. As we know, through failure of his male issue, it was inherited by his sister, wife of John Le Mesurier, son of Thomas, the former Lieut^t. Governor.

I think I can best conclude this lecture by an extract from a Memoir of Sir Edmund Andros, ⁽²⁾ by W. H. Whitmore, Esq., of Boston, which is doubly interesting as written by a representative of his former foes, and therefore is a tribute Sir Edmund's fellow countrymen should particularly appreciate.

"In reviewing the long public career of Sir Edmund Andros we are struck, not less by the amount of work which he performed than by the censure which his services incurred. He was the Governor at times of every Royal Province on the Mainland, and exercised a larger influence than any other ruler sent hither by Great Britain.

"He was apparently the chosen follower of James, and yet there is no reason to suspect him of any disloyalty to his country at the anxious period when that Monarch was striving to regain his throne. He was intrusted by William with the Government of Virginia and was honoured by Queen Anne; thus holding office under four successive monarchs.

"That his Government was distasteful to the citizens of Massachusetts is undeniable, but no man sent there to perform the same duty would have been acceptable. In reality the grievance of the colonists lay in the destruction of their

(1) Dated 19th July, 1712, proved 8th March, 1714.

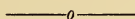
(2) The Andros Tracts, published by the Prince Society of Boston, U.S.A.

Charter, and filled with hatred against those who had thus deprived them of this accustomed liberty, they were at enmity with every form of Government that might be imposed in its place.

“We see then no reason to doubt that Sir Edmund Andros was an upright and honourable man, faithful to his employer, conscientious in his religious belief, an able soldier, possessed of great administrative abilities, a man worthy to be ranked among the leaders of his time.”

NOTES ON THE RAINFALL AND WEATHER OF THE BAILIWICK IN 1913, WITH SPECIAL REFERENCE TO SARK AND ALDERNEY.

BY BASIL T. ROWSWELL.



INTRODUCTORY.

UNLIKE 1910 and 1912, two years in which the rainfall largely exceeded the normal in all the islands, 1913 ended with totals that departed but little from the normal anywhere, and in this respect proved very similar to 1911. Beginning with 1909 we have had an interesting and regular alternation of dry and wet years, 1909, 1911 and 1913 having been remarkably dry as compared with 1910 and 1912. This is well seen in the yearly totals at Les Blanchés, Guernsey, given below.

1909.	1910.	1911.	1912.	1913.
in.	in.	in.	in.	in.
32·32	45·54	34·74	45·55	35·09

As regards 1913 it must be spoken of as having been (considered as a whole) warm, unsettled and very gloomy. At Guernsey (Les Blanchés) no droughts—either “absolute” or “partial”—were recorded, the longest absolutely dry interval being only 11 days long, viz., from July 18 to 28. On the other hand two “rain spells” each of 16 days’ duration occurred. These will be found tabulated at the end of the paper. The year’s total, 35·09 in. is 0·52 in. above the average of the 20 years, 1894-1913, and the rain days (212) are 9 in excess. The Spring months (March to May) were mild and unsettled with rain days much above the normal; the Summer (June to August) was both very cold and very dry, and with marked absence of sunshine; and the Autumn (September to November) proved mild and wet, but included a pleasantly sunny October, much rain notwithstanding.

At Sark, where Capt. Henry of the Vallée du Creux has an unbroken record now covering eight years, the total for the twelve months, 27·09 in. is 1·36 in. below the average of the eight years. One “partial” but no “absolute” drought occurred, and in this respect Sark was different from Guernsey,

where, as already stated, no droughts of either kind were noted. Sark, again, had one "rain spell" only against two at Guernsey, and its longest interval of absolutely dry weather (12 days) occurred in February.

At Alderney (Le Huret), Mr. W. J. Picot's record shows a surplus of 1.05 in., the year's aggregate, 31.66 in., being that much in excess of the normal of the seven years 1906-09 and 1911-13. In droughts Alderney fared similarly to Sark, the register showing no "absolute" but one "partial" drought. Alderney by the way had a greater number of consecutive dry days than either Guernsey (Les Blanchés) or Sark, for beginning on July 16th no rainfall was measured at Le Huret for fourteen days. Alderney did not escape a "rain spell" any more than the other islands, and it experienced what proved to be the most interesting, if disastrous, rainfall of the year over the Bailiwick in the form of a "cloud burst" on September 17th. Particulars of the visitation will be found in another part of this paper.

GENERAL REMARKS.

The year 1913 began with an excessively wet and unsettled month. In the three islands January was the wettest month of the twelve. At Guernsey (Les Blanchés) it proved to be the rainiest January of the 20 years, 1894-1913, and at Sark the total is the biggest for January of the eight years during which observations have been taken there. The "rain spell" at Alderney, referred to in the introductory remarks, occurred in this month when for 16 days (from the 10th to 25th) rain fell daily. Guernsey's first "rain spell" ran concurrently with that at Alderney, but whereas a total of 3.07 in. fell at Le Huret in the interval, Les Blanchés had 3.61 in. The month had absolutely no cold weather at all.

The unsettled weather ended with the first week of February, from when to the end of the month very little rain fell. In the third and part of the fourth week a cold snap of moderate intensity prevailed, fresh to strong east winds blew for some days and a little snow fell in all the islands, but only at Guernsey (Les Blanchés) in sufficient quantity (0.04 in. on the 17th) to be measurable. The lowest air temperature at Les Blanchés was 32.3 deg. on the 18th.

March was unsettled and very mild from beginning to end, with a preponderance of W. to S.W. winds which blew with gale force several times in the latter half of the month. A sharp hoar frost occurred on the 18th and gave a minimum air temperature at Les Blanchés of 33.2 deg.

On Saturday afternoon, the 22nd (Easter Eve), a violent S.W. gale swept over the Bailiwick, prevailing from about 5 to 7 o'clock. The storm at Alderney was reported as follows in the *Guernsey Advertiser* of the 29th :

“On Saturday, shortly after 6 p.m., we experienced a violent storm from the south-west. In the afternoon at one o'clock a blinding rain-storm followed some heavy thunder claps and as the day wore on the weather grew worse, the wind increasing in violence. Much damage was done to greenhouses and other buildings which rocked and quivered as if there were an earthquake. Several persons who were out in the gale, unable to keep their footing, were blown along a considerable distance.”

In connection with this gale it is interesting to quote the following from the London Daily Weather Report of the 23rd :

“A thunderstorm passed eastwards across England during the afternoon [22nd] and a severe gale from the S.W. was experienced during the evening or night.”

Though a thunderstorm, it will be observed occurred at Alderney, Guernsey escaped this part of the bad weather, and as regards rainfall Alderney's total for that day was 0·30 in., while Guernsey (Les Blanchés), escaped with 0·10 in. only, and Sark with 0·08.

April's weather divides itself into a dry and cold first half, and a wet second half with normal temperature. On the whole the month was cold and rather wet. The dry interval prevailed from the 2nd to the 14th inclusive and gave as the total rainfall of the 13 days 0·05 in. at Guernsey (Les Blanchés), 0·12 in. at Sark, and 0·06 in. at Alderney. A solitary but severe hoar frost for the time of year occurred in the early morning of the 13th, which reduced the screened temperature at Les Blanchés to 34·0 deg. This frost was reported as having done considerable damage to the potato crop at Alderney. Mr. Picot reported a “heavy thunder shower” at Alderney on the afternoon of April 29th. This, the other islands escaped, although rain fell everywhere, the amounts being : Guernsey (Les Blanchés) 0·24 in., Sark 0·30 in., Alderney 0·44 in.

The weather of May, at any rate as regards rainfall, was exactly the opposite to that experienced in April, the first half being wet and unsettled, the second half very dry and including a well-marked heat wave in the last week. Rain was of almost daily occurrence in the first fortnight and when it ended on the 15th brought to a close a whole month of continuously unsettled conditions. From April 15 to May 15 (31 days) the total rainfall in the islands was :

Guernsey (Les Blanchés)	3·94 in.	Rain days,	27.
Sark	3·34 in.	„	„ 23.
Alderney	3·45 in.	„	„ 23.

The change to drier and more sunny weather at the middle of May proved very acceptable after such an unseasonably lengthy period of rain, as did also the burst of warmth at the end of the month. At Sark the weather at this time was referred to in the *Guernsey Advertiser* of June 7th, in the following terms :

“ Last week [May 25 to 31] we experienced many varieties of weather—intense heat for two or three days, then we had a taste of rain, damp weather and thick fog. This was followed by a rather severe thunderstorm on Thursday evening, which somewhat cleared the air, and we again had a very fine and warm week end.”

And as regards Alderney, the *Guernsey Weekly Press* of the same date said :

“ A heavy thunderstorm passed over the island on Thursday evening. It had threatened all day, the weather being sultry, and banks of heavy fog rolling in the offing. Much rain fell during the night.”

The thunderstorm referred to in the two paragraphs was also felt at Guernsey, but it gave no rainfall at Les Blanchés. At Sark the amount was 0·13 in., and at Alderney 0·18 in. It was during the prevalence of the thick fog mentioned in the above notes that, at midnight of the 27th, the schooner “Jeanne” ran on to the rocks at the Bigard, Forest, and became a total wreck. And that same day, and because of the same fog, the ss. “Serk,” which left St. Peter-Port harbour at 9.30 a.m., for Alderney, did not reach that island until 2.15 p.m. of the 28th! Of the heat wave its intensity, on one day at any rate, will be gauged from the fact that the 26th with a mean temperature of 65·2 deg. (normal 52·9 deg.) was the warmest May day at Les Blanchés of the 20 years 1894-1913.

June was a cold and very dry month—the driest month of the twelve at the three stations. At Guernsey (Les Blanchés) the mean temperature was continuously below the normal from the 5th to the 13th inclusive, and again from the 18th to the 27th. Between these two cold intervals one solitary and very hot day occurred (the 16th) when the highest shade temperature of the year was registered, viz., 77·8 deg. It was in this month that began the “partial” drought at Sark and Alderney recorded at the end of this paper.

July was very cold and would have been very dry as well but for an unusually violent thunderstorm and heavy down-pour in the last week. The month ran its course without a vestige of summer warmth, 68·1 deg. was the highest point touched by the screened thermometers at Les Blanchés, while onwards from the 5th the mean temperature was continuously

below the normal. At Sark, for 19 days—from the 10th to the 28th—the only rainfall was 0·01 in. This fell on the 17th. The same 19 days gave a total of 0·04 in. both at Les Blanchés (Guernsey) and at Alderney.

The thunderstorm, without doubt the severest visitation of the kind since that of June 8th, 1911, when “Montville” at the Vardes was gutted, occurred on Wednesday, the 30th. At Guernsey the storm prevailed for seven hours—from 2 to 9 a.m.—and was extremely violent from 5 to 7 o’clock. In the 2½ hours from 5 to 7.30 no less than 2·09 in. of rain and hail fell at Les Blanchés and proved to be the second heaviest rainfall of the 20 year period, 1894-1913. The one bigger downpour was 2·42 in. on Oct. 2nd, 1904. At Sark the storm was reported in the *Evening Press* of August 1st, as follows :

“On Wednesday morning a severe thunderstorm passed over the island. About 5 a.m. loud rumblings of thunder were heard in the south-west. Rain began to fall. It soon became apparent that Guernsey was in the centre of the storm. Gradually it moved onwards and from 6 to 8 continuous peals of thunder were heard, the lightning then being very vivid. Rain fell in torrents. From 7 to 7.30 the storm was at its worst.”

At Alderney, where the lightning did damage, the visitation is thus described in the *Star* of August 1st :

“Alderney was visited by a thunderstorm of unusual severity on Wednesday. As early as five o’clock in the morning the distant roll of thunder was heard away to the southward. About 10 a.m. it broke over the island and for over an hour it was severe, indeed flash and thunder were simultaneous. . . . Torrents of rain fell during the storm, and continued practically the whole day. It was wanted for the grass, but the corn has suffered somewhat.”

The above paragraphs are interesting, giving as they do particulars of the gradual approach to the islands, and passage, of this violent electrical disturbance. The movement of the storm must have been roughly from S.W. to N.E., for as we have seen it only broke over Alderney at 10 a.m. and Mr. Picot’s returns show clearly that no rain fell there until after nine o’clock. At Sark and Guernsey on the other hand the whole of the thunderstorm rain fell prior to 9 a.m. Gauged by the rainfall alone the storm seems to have been worse at Guernsey than elsewhere, for in striking contrast to the 2·09 in. measured at Guernsey (Les Blanchés) the amount at Sark was 0·80 in. only, and at Alderney 0·87 in. As the rainfall day ends at 9 a.m. the above amounts are registered for Guernsey and Sark against the 29th, and for Alderney against the 30th.

August was cold during the first half and very dry up to the end of the third week. Thunderstorms of moderate intensity in the last week gave the month’s heaviest rainfall.

September was another dry month, especially up to the 12th. At Sark no rain at all was recorded by Capt. Henry from the 1st to the 9th inclusive. At Alderney, however, a tropical downpour early on Thursday, the 18th, turned the month into the wettest September in that island of the eight years, 1906-13. On that day in the short space of less than an hour no less than 2'00 in. of rain fell at Le Huret. This is by far the heaviest rainfall at Alderney of the eight-year period just referred to.

Wednesday, September 17th, was a day of peculiar rainfall in the islands—one of those still, quiet days when heavy ominous-looking masses of cloud make their appearance in the sky and move so slowly as to give one the impression of their having come down from above rather than moved up from the horizon. Rain in weather of this description is uncertain, and when it does occur falls in local patches and sporadically. As shown in the following table, which gives the rainfall of the 17th at several stations, such was very much the case on the day in question.

GUERNSEY.						SARK.	ALDERNEY.
Hautnez.	Les Blanches.	Brooklyn Fort Rd.	Guille- Allès Library.	Les Hêches.	St. George	Vallée du Creux.	Le Huret.
in.	in.	in.	in.	in.	in.	in.	in.
0'74	0'35	0'18	0'04	0'03	0'02	0'08	2'00

NOTE.—I am indebted to Mr. Collette for the use of the figures for Hautnez, Brooklyn, Les Hêches and St. George.

In explanation of the above table it should be added that the Guernsey figures, at any rate those for the three first stations named, represent a rainfall that lasted from one to one and a half hours, and this fell between 9'30 and 11 a.m. of the 17th. The Alderney downpour really occurred at 5 a.m. on the 18th and fell as nearly as it was possible to ascertain in from half to three-quarters of an hour.

At Alderney, as well as at Guernsey, the day's rainfall appears to have been very local, for, writing on the subject of the cloudburst, Mr. Picot said: "Strange to say no rain fell over Mannez at the eastern end of the island, and the effects were more disastrous on the N.W. side—in the Vallée and Platte Saline—than in town. It was strictly local, you see. There was no thunderstorm, but when all was over, about 5'15 o'clock, one single muffled clap of thunder was heard, and that was all." Mr. Picot said the rain was of a singularly black

nature. He wrote: "At first many thought it was their own smutty roofs washed out that caused their black cistern-water. But no, it was black everywhere, away in fields, road puddles, common-ponds, far from chimneys or roofs."

In a newspaper report of the phenomenon the following occurred:

"One observer noticed a dark mass of cloud over the island, but the surrounding sky was remarkably clear. . . . The shoots and gutters of the houses would not carry off the water, and consequently it deluged rooms and damaged furniture in many instances. The water, rushing down the hilly roads, tore trenches that in places were some feet in depth. At low levels kitchens and basements were flooded."

A Guernseyman who happened to be in Alderney at the time said that for some ten minutes the rain poured off the roof of the house he was staying at like a miniature Niagara Falls, through which it was impossible to see anything. He also confirmed Mr. Picot's observations as to the black nature of the rain.

October gave some heavy rainfalls, and, except for rather more than a week of almost rainless weather in the middle of the month, was generally unsettled and mild. In the last week temperature was very high for the time of year, and, as a whole it was the third warmest October of the 20 years 1894-1913 at Les Blanchés.

A thunderstorm, of moderate intensity at Guernsey, but which lasted some six hours, occurred in all the islands during the night from the 1st to the 2nd of October. At Guernsey it gave a heavy rainfall—at Les Blanchés of 0.95 in., and on the roof of the Guille-Allès Library 1.36 in. At Sark the amount was only 0.22 in., and at Alderney 0.26 in. During the prevalence of this storm the flagstaff at the Casquets lighthouse was struck by the electric fluid and split in two.

Another thunderstorm broke over Alderney on the night of the 6th and gave 0.73 in. of rain at Le Huret. No storm occurred either at Guernsey or Sark, but heavy rain fell in both islands, as much as 0.77 in. at Guernsey (Les Blanchés) and 0.88 in. at Sark.

The 20th and 21st were very wet days, the total for the two days being: Guernsey (Les Blanchés), 1.50 in.; Sark, 1.15 in.; Alderney, 1.45 in.

At 4 p.m. on the 28th a magnificent double rainbow was seen at Guernsey. Both the primary and secondary bow were complete throughout the arc and remained visible in this perfect form for some minutes. The rainbow was of a brilliance rarely seen and owing to the low altitude of the sun was of majestic size. That same day, shortly after noon,

another thunderstorm, reported as heavy, and accompanied by much rain, passed over Alderney.

Very unsettled weather prevailed all through November, which was also a very mild month. Rainfall was especially heavy in the first half and thunderstorms again occurred at Alderney and Guernsey, with hail squalls, during the night from the 5th to the 6th and again on the 10th, at Guernsey on the 11th, and at Alderney on the 13th and 14th. At Sark and Alderney November was the second wettest month of the year.

The persistent mild weather experienced all through October and November continued until past the middle of December, when temperature became variable and the month ended up cold. A big cyclonic rain fell on the 5th, totalling as much as 1·14 in. at Guernsey, 0·95 in. at Sark (the year's heaviest fall in that island), and 0·76 in. at Alderney. After a comparatively dry fortnight as regards the actual amount of rain the weather again became increasingly unsettled just before Christmas, and at Alderney a snowstorm yielding 0·15 in. of water occurred on the 31st. This amount of water represents roughly 1½ inches of snow.

This year, the shortest day, December 21st, was marked by brilliant sunshine, the sun shining down from a cloudless sky from morning to night. The same thing by the way occurred in 1891, and again in 1904. On the other hand from 1908 to 1912 inclusive (for five consecutive times) the shortest day was sunless at Guernsey.

In conclusion I have pleasure in once more acknowledging the much valued help of Capt. Henry, of the Vallée du Creux, Sark, and of Mr. W. J. Picot, of Le Huret, Alderney, who each in their respective islands have now for eight years taken rainfall observations and sent me weekly returns of the measurements. Their records form, without doubt, an interesting as well as valuable supplement to those taken at Guernsey.

ABSOLUTE DROUGHTS IN 1913.

An Absolute Drought, as defined in *British Rainfall*, is "a period of *more than* 14 consecutive days, no one of which is a rain day."

No Absolute Drought was registered in any of the islands.

LONGEST ABSOLUTELY DRY SPELL, 1913.

SARK	...	...	February 17 to 28	=	12 days.
ALDERNEY	...	...	July 16 to 29	...	= 14 days.
GUERNSEY	...	...	July 18 to 28	...	= 11 days.

PARTIAL DROUGHTS IN 1913.

A Partial Drought, as defined in *British Rainfall*, is “a period of *more than* 28 days, the mean rainfall of which does not exceed .01 in. per day.”

SARK.

June 7 to July 6 = 30 days. Rainfall 0.26 in. on 7 days.

ALDERNEY.

June 7 to July 7 = 31 days. Rainfall 0.31 in. on 6 days.

GUERNSEY (LES BLANCHES).

No Partial Drought was registered.

RAIN SPELLS IN 1913.

A Rain Spell, as defined in *British Rainfall*, is “a period of *more than* 14 consecutive days, every one of which is a rain day.”

SARK.

Nov. 4 to 18 = 15 days. Total rainfall, 2.69 in.

ALDERNEY.

Jan. 10 to 25 = 16 days. Total rainfall, 3.07 in.

GUERNSEY (LES BLANCHES).

Jan. 10 to 25 = 16 days. Total rainfall, 3.61 in.

Nov. 4 to 19 = 16 days. „ „ 3.51 in.

SARK AND ALDERNEY RAINFALL, 1913.

Months.	Monthly Totals.		Rain Days.		Heaviest Daily Rainfall.		Falls of 0.50 in. and above.	
	Sark.	Alderney.	Sark.	Alderney.	Sark.	Alderney.	Sark.	Alderney.
	in.	in.			in.	in.		
January	4.62	4.97	25	25	0.56 29th	0.49 29th	1	—
February	1.11	1.38	6	8	0.31 7th	0.42 1st	—	—
March	2.40	3.52	19	18	0.65 16th	0.88 16th	2	2
April	2.20	2.29	16	16	0.32 16th	0.44 29th	—	—
May	1.72	1.68	16	13	0.38 4th	0.30 7th	—	—
June	0.40	0.65	9	6	0.14 6th	0.19 6th	—	—
July	1.54	1.15	8	8	0.80 29th	0.87 30th	1	1
August	1.29	0.92	8	9	0.45 26th	0.29 23rd	—	—
September	1.17	3.61	9	14	0.25 13th	2.00 17th	—	1
October	3.62	4.13	17	16	0.88 6th	1.20 20th	3	2
November	3.77	4.44	22	24	0.50 12th & 21st	0.81 12th	2	3
December	3.25	2.92	18	15	0.95 5th	0.76 5th	1	2
The Year	27.09	31.66	173	172			10	11

Totals and Heaviest Rainfall for the Eight Years, 1906-1913.

1906.....	26·07	28·63	161	168	1·16	June 28th	0·85	Nov. 8th	10	15
1907.....	26·15	28·84	178	188	1·11	Nov. 25th	1·15	Oct. 1st	6	7
1908.....	18·51	24·02	155	150	0·62	Feb. 16th	1·04	Apl. 24th	1	6
1909.....	26·13	32·99	146	157	1·38	June 3rd	1·55	Nov. 15th	14	15
1910.....	39·04	?	203	?	1·84	Oct. 13th		?	14	?
1911.....	26·71	29·12	152	158	1·40	Oct. 27th	1·21	Nov. 11th	10	14
1912.....	37·87	39·04	197	197	1·35	Aug. 12th	1·30	Aug. 12th	22	22
1913.....	27·09	31·66	173	172	0·95	Dec. 5th	2·00	Sept. 17th	10	11
Averages	28·45	30·61	171	170					11	13

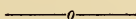
NOTE.—The Sark averages are based on eight years' observations, those for Alderney on seven years.

THE CHURCH PLATE OF THE DEANERY OF GUERNSEY.

PART I.

BY S. CAREY CURTIS,

Associate of the Royal Institute of British Architects.



INTRODUCTORY.

BEFORE dealing with the separate pieces of plate of the various Churches in the Deanery of Guernsey, a brief historical review of the religious vicissitudes which the Channel Islands have passed through during the last five hundred years may be useful.

There are three distinct epochs during that period of 500 years, and all have influenced the design, size and use of the plate. These epochs are as follows :

(1) Pre-Reformation ; (2) Calvinistic ; (3) Episcopalian.


(1) The Pre-Reformation Epoch. The Channel Islands previous to the Reformation belonged to the diocese of Coutances and were consequently under the see of Rome, having no doubt the extensive and elaborate ritual, with the instruments, then prevailing. We do not know that this was actually the case, but the recent discovery of many instruments of Pre-Reformation times in the Belfry of St. Sampson's Church seems to bear out this theory.

The only piece of plate we have of this epoch is the well-known Chalice of St. Sampson's Church.

(2) The Calvinistic Epoch. This lasted about 100 years in Guernsey, from 1560 to 1660, (the year of the Restoration in England) in Jersey until 1623. The old plate had been all swept away. Guernsey was a poor island, and probably to carry out the Ordonnance of 1583, ordering the Collecteurs des Trésors of the various Churches to provide for the use of their congregations, "plats et gobelets honnestes et nécessaires pour le Saint Cène, qui seront payés du Trésor de chacune paroisse" (Receuil d'Ordonnances, Vol. I. p. 52), recourse was had to vessels not always of precious metal. In England we know use was made of pewter, glass and even wooden vessels for the Communion, and we may hazard the guess this also occurred in Guernsey.

We have no specimens of the plate in use at this period, but we have it recorded that amongst the Town Church Plate melted down in 1847 was a large dish, which had replaced cups presented by Jean de Quetteville, senior, and James and Judith de Beauvoir, and there were also two cups presented by the same James and Judith de Beauvoir. James de Beauvoir died in 1607 and these cups replaced the ones demanded by the Parishioners of St. Peter-Port from the Royal Commissioners then in the Island, "the silver cups belonging to the Administration of the Sacrament of Holy Communion taken about the time of the seizing of the Parish Grounds," (Royal Commissioners' Report, 1607), and which were irretrievably lost. Jean de Quetteville, senior, was one of the heads of the Presbyterian party and was Bailiff of Guernsey from 1631 to 1644.

We have it further recorded that by the will of Thomas de Lisle, dated 1627, he bequeathed to the Church of St. Pierre-du-Bois his silver cup which he had been accustomed to lend for the administration of Holy Communion, and we shall see in the notice of the plate of that parish that a cup dated 1781 was stated to be his gift probably replacing the original one, the original inscription being, as was often the case, copied on the newer vessel.

(3) The Episcopalian Epoch. Towards the end of the seventeenth century, the various parishes appear to have provided themselves with silver vessels of the same pattern throughout the island. We find the cups (of Elizabethan pattern) still in the parishes of St. Sampson's, Câtel (now stolen), St. Saviour's and the Forest, all of about the date of 1700, and from the records, probably also in the parishes of St. Peter-Port, St. Peter's-in-the-Wood and St. Andrew's. A Bason or Paten was also provided and may still be found at the Câtel, St. Saviour's, St. Peter's-in-the-wood and the Forest, and from the records, probably also at St. Peter-Port and St. Andrew's, and lastly a Baptismal Ewer, as still found in the Câtel, St. Saviour's and St. Andrew's, and probably also at St. Peter-Port, St. Peter's-in-the-Wood, Torteval and the Forest. Those extant were all the gift of Elizabeth, widow of Pierre Le Messurier, with the exception of that of St. Saviour's, which was the gift of Jean de la Mare, of Les Padins, and Judith de Garis, his wife, and where they have marks, they bear the same, viz. :  and were probably of local workmanship.

After this period, there was more diversity of pattern, and towards the middle of the 18th century, the gift of private

GUERNSEY CHURCH PLATE.



Plate I.

THE GUILLE CRUET.

St. Peter-Port.

Front view.

Side view.



Plate II.

St. Peter-Port.

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plate is often to be noticed. Benevolent parishioners gave for sacred use vessels obviously intended for secular purposes, and several specimens are found with the arms of the donors engraved, sometimes with heathenish mottoes. Given with the best of intentions, it does appear incongruous that a beautiful little vessel obviously intended as a domestic cream jug without any ecclesiastical appearance should be used for sacred purposes, or that a salver, such as we find in domestic use nowadays, should be used as a paten, but we shall find them in the review of the various pieces in the churches.

∴ The author of these notes is indebted to Cripps' Old English Plate for the information as to the St. Sampson's Chalice and the identification of some of the maker's marks, and the letters O E P. in brackets will be found, where he has made use of this work.

I.—ST. PETER-PORT.

The whole of the plate has been recently acquired and with the exception of the Guille cruet or ampulla is of modern manufacture.

In March, 1847, the parishioners decided to have the whole of the plate then belonging to the Church melted down and replaced by modern vessels.

The plate melted down at that time was as follows :—

A flagon.

Three cups or chalices.

A large dish, 17 inches in diameter.

A paten, $10\frac{3}{4}$ inches in diameter.

A covered vessel like a coffee pot, which was used for the administration of Holy Baptism.

On one side of the flagon was the inscription "*A la Paroisse de St. Pierre Port en Guernesey.*" On the other side was a view* of the outside of the Town Church taken from the east. Underneath was engraved "*Elie de Fresne Recteur. Samuel Le Cocq, Samuel Bonamy, Curateurs, 1752.*"

Under the foot of two of the cups was the inscription : "*A la Paroisse de St. Pierre-Port, du Don de James et Judith de Beauvoir.*"

The third cup, which was of different shape, bore the words : "*Don de Monsieur Josias Le Marchant. Pour l'Eglise de St. Pierre Port.*"

On the border of the large salver was the inscription : "*Don fait ci-devant a l'Eglise de St. Pierre-Port en l'isle de Guernesé en coupes par Mr. Jean de Quetteville senior Mr. James et Dlle. Judith de Beauvoir, et Dlle. Jeanne Bouchet, changées en ce plat.*"

* Rubbings of this may be seen among the Lukis papers in the Lukis Museum, made at the time of the sale of the plate.

In the centre of the paten was an engraved representation* of a church in the Italian style.

* Rubbings of this may be seen among the Lukis papers in the Lukis Museum, made at the time of the sale of the plate.

There are eleven pieces in all.

1. THE GUILLE CRUET, AMPULLA OR BURETTE.

Silver, part gilt. No hall or maker's marks.

∴ In the Proceedings of the Society of Antiquaries, Feb. 28th, 1895, Mr. W. H. St. John Hope gives the following account of this:—

“The altar cruet is exhibited by the Rev. G. E. Lee, F.S.A., rector of St. Peter-Port, Guernsey, to which church it has lately been given. It is an object of far greater rarity than even a mediæval chalice, so much so, that I do not recall a single example in use in any church in this country.

“This particular vessel is of silver parcel-gilt and measures, without the knob of the cover, which is lost, $6\frac{1}{2}$ inches in height. It has a globular body with long tapering neck and spreading foot, and a flattened cover with thumb piece. Unlike any other existing examples of cruets it has a curved handle, and on the opposite side a slender curved spout. Between the neck of the cruet and the spout is a connecting support in the form of a small gilt dragon, represented as *regardant* and walking up the cruet. The spout springs from a gilt boss formed of four fleur de lys-like ornaments in relief. From this boss starts a raised belt which is carried round the body of the cruet. It is $\frac{3}{8}$ inch wide, and encloses a gilt band inscribed in capital letters:

* SANCTE * PAULE * * (I) ORAPRO * NOBIS *

with roses for stops. Before the O of ORA is an erased letter P, the result of a blunder. The inscription is interrupted midway by the handle, which starts from the lower edge of the band. It is $7/16$ inch wide, and has throughout its length an embossed pattern of floral sprays. At its junction with the band is a half-length figure of St. James the Great between two scallop shells, but upside down. A like pattern to that on the handle encircles the vertical edge of the foot. At the junction of the body and neck is a reeded and gilded band, and another such encircles the neck just below the lip. The lip is surrounded by a similar reeded band, and has engraved on top a capital letter A for *Aqua*. As these cruets were always made and used in pairs the lost fellow to the example before us must have had on it a V for *Vinum*.

“Although the cruet is not hall-marked, there can be little or no doubt that it is English, and probably of London make. The lettering on the medial band closely resembles that on the Rochester mazer of 1532-3 in the possession of the President, and on the Tokerys mazer of 1534-5 belonging to Mr. W. Jardone Brakenridge. Its date, therefore, is probably *circa* 1530-35.

“The cruet is engraved, though not very accurately, in *Specimens of Ancient Church Plate, Sepulchral Crosses, &c.*, published at Oxford, Cambridge and London in 1845, and is there said to have belonged to the desecrated chapel of St. Apolline, Guernsey. Mr Lee, however, tells me that the only authority for this statement is the letter A engraved on the lid, which it is needless to say does not stand for Apolline.

“It is a matter of congratulation that this most interesting cruet, which has long been in private hands, should have been given to a church to be restored to its proper use.”

It is said to have been dug up in the parish of St. Saviour's and bought from the finder by John Guille. It was presented by his grandson, the Rev. H. G. de C. Stevens-Guille, in 1895, to St. Barnabas Church in memory of his cousin, the Rev. Charles S. Guille.

2. A COPY OF THE GUILLE CRUET $6\frac{1}{2}$ inches high.

Silver, part gilt.



Plate III.

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St. Peter-Port.



Plate IV.

PRE-REFORMATION CHALICE.

St. Sampson's.

London hall mark for 1895. Maker's mark CK KRALL*

Inscribed on lid V (= *vinum*) and round body "VERE . EST . POTUS . SANCTUS . MEUS."

The next seven pieces are modern and represent the proceeds of the melting down of the old plate in 1847. They are in the Early Victorian rendering of Gothic work and bear the London Hall Mark of 1846 and the maker's mark of I.J.K. and are gilt.

3. FLAGON 12½ inches high.

Modelled on the pattern of the Guille Cruet and inscribed round body "✠ *Gloria . in . excelsis . deo . alleluia* ✠"

4 and 5. TWO CHALICES (similar) 9 inches high.

Inscribed round bowl "✠ *calicem . salutaris . accipiam . et . nomen . dni . invocabo* ✠" and on base *i . h . c*

6. BASON or ALMSDISH 13 inches diameter.

Inscribed round rim "✠ *Quid . retribuam . domino . pro . omnibus . que . retribuit . mihi* ✠" and in centre an embossed figure of St. Peter in gothic frame inscribed "*. Sanctus . Petrus .*"

7. PATEN 8 inches diameter.

No inscription.

8 and 9. TWO PATENS (similar) 7 inches diameter.

Inscribed round rim ✠ *Per . mysterium . sancte . incarnationis . tue . libera . nos . domine* ✠; in centre, *i . h . c*. in 6-lobed gothic setting.

There are also

10 and 11. A PAIR OF CANDLESTICKS... .. 15 inches high.

With hexagonal sconces, enriched on edge, a traceried knop, and on hexagonal bases with knobbed toes.

London hall mark of 1894. Maker's mark CK KRALL *

Inscribed underneath, the one : "A LA GLOIRE DE DIEU ET EN MEMOIRE DE MATHILDE LE LACHEUR, FEMME DE JEAN LENFESTEY; the other : A L'EGLISE DE SAINT PIERRE PORT, DON DE JEAN LENFESTEY, ANNO DOMINI 1895."

II.—ST. SAMPSON'S.

The plate here is of dates widely separated. Thus we see a Pre-Reformation Chalice and nineteenth century vessels together.

* Barkentin and Krall.

There are fourteen pieces in all.

1. CHALICE 6½ inches high.
Silver, water gilt. No hall or maker's marks.

Inscribed under base "SUM · ECCLĒ · DIVI · SAMPSONIS
1·6·1·4." and the weight 12 ozs. 3 dwt.

∴ This is the oldest piece of plate belonging to any church in Guernsey. It is noticed in Cripps Old English Plate, 10th edition, page 224, and there about 1525 is given as the date of its manufacture and it is claimed as English. It is almost identical in form with the Pre-Reformation chalice at Jurby in the Isle of Man. The Jurby specimen has the upper part of the base convex as against the concave base of the St. Sampson's Chalice (O E P).

Tradition has it that it was buried in the Rectory garden after the Reformation, and the year 1614 is that in which it was restored to the Church. It has not been in actual use for many years, owing to the prejudice of the parishioners against its previous history, and the gilding having been worn off in places, it was reported to be poisonous to drink from.

2. CUP 8¼ inches high.

No date mark, but maker's marks



Inscribed round rim of bowl "*Pour l'Eglise De Saint
Sanson 22 May 1714.*"

∴ Of Elizabethan type, with baluster stem (see Introduction).

The following five pieces are inscribed underneath

*"Appartient a la Paroisse de St. Sampson.
R.M* Recteur. J. Lainé, Em Ogier, Curateurs,
1816."*

* RM = René Martineau.

3. EWER 5 inches high.

London hall mark of 1800. Maker's mark SE

∴ Apparently originally a domestic cream jug.

4-7. FOUR DISHES.

∴ Two round and two oval, one on four feet, of Sheffield plate with beaded edges in an excellent state of preservation.

The rest of the pieces, seven in number, were the gift of Eleazar Le Marchant, of Les Grandes Maisons.

8. FLAGON 11½ inches high.

- 9-10. TWO DISHES with feet 8 inches diameter.

11. OVAL DISH 13 × 10 inches diameter.

These four have London hall mark of 1816. Maker's
mark }WB{

GUERNSEY CHURCH PLATE.



Plate V.

St. Sampson's.

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1

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Plate VI.

THE LE MARCHANT GIFT.

St. Sampson's.

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12

14

11

10

8
13




12-13. TWO CUPS 5½ inches high.

London hall mark of 1815. Maker's mark 

The above six pieces are each inscribed "Don d'ELEAZAR LE MARCHANT, f^s de W^m ECUIER des grands MAISONS, du Grand BOSQ, Seigneur du FIEF Le CONTE, JURE JUSTICIER et Lieut BAILLIF de la COUR ROYALE de cette Isle de GUERNESEY et de Madame JUDITH LE MARCHANT, née DE LA MARE fille de JEAN, ECUYER son EPOUSE, sous condition expres d'être conservée a perpetuitée et uniquement à jamais pour l'usage de la celebration de la Sainte CENE dans l'EGLISE de la PAROISSE de ST. SAMPSON 1816." In centre the Le Marchant Arms with supporters and the motto "ME MINERVA LUCET."

also

14. SALVER.

No date marks. Maker's marks   

Inscribed as above but omitting any mention of "Madame JUDITH &c. SON EPOUSE" and dated 1832, with the Le Marchant Arms in centre of face without supporters or motto. Also inscribed on back "À Ezar x Le x M^t fs W^m du Don d'El^e Le M^t Esq. son G^d Père 1757."

∴ Apparently originally a piece of domestic plate.


There is also a plated paten.

III.—CÂTEL.

Previous to the robbery of the plate on the night of April 3rd, 1913, in which two cups and a salver were stolen, the plate was all old.

There were six pieces here.


1 and 2. TWO CUPS (both stolen).

No date marks. Maker's mark 

Inscribed round bowl "*Pour l'Eglise du Câtel.*"

∴ Of Elizabethan type with baluster stem (see Intro.)

3. BASON or PLATTER 14 inches diameter.

London hall mark of 1771. Maker's mark 

Inscribed on rim "*Pour l'usage de l'Eglise de la Paroisse du Câtel en Guernsey en l'An 1771. Du Don de Pierre de Jersey Ecuyer des Towillets.*"

4. SALVER with foot (stolen).

No date mark. Maker's mark



Inscribed on face "*Pour l'usage de l'Eglise de la Paroisse du Câtel a Guernesey du don de Dame Marie de Sausmarez en l'an 1735.*" In centre the Sausmarez Arms with supporters.

5. FLAGON 12 inches high.

No date mark. Maker's mark



Inscribed on body "*Don de Charles Mollet Senr a l'Eglise du Castel l'an 1768*" and underneath *72 once ¹/₄ Isle de Guernesey.*

∴ Identical in shape and size with one at Grouville, Jersey.

6. EWER 7 inches high.

No date mark. Maker's mark indistinguishable,
but possibly



Inscribed round body "*Don d'Elizabeth Le Messurier veuve du Sr Pierre Le Messurier de la paroisse de St. pierre du Bois pour le service du baptême des petis enfans de la paroisse du Câtel 1729.*

∴ See Introduction.

IV.—ST. SAVIOUR'S.

The plate here is all old, the most modern being dated 1734. We have in this Church the prototype of the plate found in all the Parishes after the passing of the Calvinistic epoch, and taking it as a whole it is the most interesting in Guernsey.

There are six pieces.

- 1 and 2. TWO CUPS.

London hall mark of 1698. Maker's mark *



* See Cripps Old English Plate, 10th Edition, p. 448.

GUERNSEY CHURCH PLATE.



Plate VII.

Câtel.

3 1 6 5 2 4



Plate VIII.

St. Saviour's.

1 4 3 6 5 2

Inscribed each "*Coupe a par tenant a la Paroisse de St. Sauveur 1699.*"

∴ Of Elizabethan type, with baluster stem.

3. EWER.

No date or maker's marks.


Inscribed "*Don du Sr Jean de la Mare, fils Jean des Padins de la Paroisse de St. Sauveur et de Judith de Paris sa fême, a l'Eglise de St. Sauveur 1729.*"

4 and 5. TWO BASONS or PLATTERS.

No date or maker's marks.

Inscribed each "*Plat a par tenant a la pa royce de St. Sauveur 1699.*"

6. FLAGON.

London hall mark of 1734. Maker's mark * 

Inscribed round body "*Don a l'Eglise de ST. SAUVEUR en l'Ile de Guernsey 1734*" and underneath "*110 oz 12=0.*"

∴ This piece has a curious contemporary leather case to contain it.

There is also a plated credence of modern French manufacture.

V.—ST. PETER'S-IN-THE-WOOD.

The plate here is partly old, partly comparatively modern. There are two ancient basons or platters of the usual type found in the country parishes.

In the year 1831 the parishioners decided to have some of the ancient plate melted down and replaced by new. The following extract from the Registers will therefore be interesting :—

En vertu de l'Autorité de Monseigneur l'Evêque de Winchester et avec le consentement du Recteur et Curateurs de la Paroisse de St. Pierre du Bois, la vaisselle suivante, ancienne et endommagée et parfaitement inutile, appartenant a l'Eglise de St. Pierre du Bois a été vendue et avec le montant, un Flagon a été acheté pour l'usage de la Communion, viz. :

* Joseph Smith (O E P).

	oz.	dwt.
Une grande coupe, don du Sr. Thomas Massy, fils Leonard à l'Eglise de St. Pierre du Bois, 1695	18	4½
Un plat, don du Sr. James Paint	24	10½
Deux anciennes Coupes, sans inscription.....	24	6
Une très petite do.....	5	9
Une Coupe a l'Usage du Bapteme, don de Elizabeth le Mesurier, veuve du Sr. Pierre Le Mesurier, 1729	8	3
	<hr/>	<hr/>
	80	13

Je soussigné certifie avoir pesé en présence du Recteur les articles ci-dessus mentionnés et que le montant est de Quatre vingt onces et treize pennyweight.

JEAN LE PAGE, Jun.

Lesquelles articles j'ai achetées au prix de cinq shilling par once.

JEAN LE PAGE, Jun.

Messieurs le Recteur et Curateurs de St. Pierre du Bois a Jean
Le Page, Jun.

1834 Pour un Flagon en Argent pesant 43oz. 11dwt. £ s. d.
Jan. 7 (inscription incluse) 25 14 0

Recu le montant,

JEAN LE PAGE, Jun.

We see again the typical cups, basons or platters, and the baptismal ewer referred to in the Introduction.

There are five pieces in all.

1. BASON or PLATTER 12½ inches diameter.

London hall mark of 1696. Maker's mark 

Inscribed round rim "*Don Des Sieurs Thomas Pierre et Leonard Massy à l'Eglise de St. Pierre Du Bois.*"

2. PATEN with Foot 8½ inches diameter.

London hall mark of 1696. Maker's mark 

Inscribed round edge as No. 1.

3. CUP 8¼ inches high.

London hall mark of 1781. Maker's mark C.W.*

Inscribed round bowl as No. 1.

* Charles Wright (O E P).

GUERNSEY CHURCH PLATE.



Plate IX.

St. Peter-in-the Wood.

1
3

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Plate X.

The Forest.

1
5

7

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4. CUP 8½ inches high.
Hall and maker's marks as No. 3.

Inscribed round bowl "*Don de Mr. Thomas de Lisle a l'Eglise de St. Pierre du Bois.*"

∴ Extract from the will of Thomas de Lisle dated 11th April, 1627.
"Plus je donne a l'Eglise de la ditte Paroisse de St. Pierre du Bois la Coupe d'Argent qui m'appartient, de laquelle on a coutume de se servir pour aider à l'Administration de la Sainte Cene du Seigneur" (v. Actes des Estats, pp. 86-87). The above cup obviously replaced the ancient cup, just as No. 3 replaced the original cup presented by the brothers Massy about 1700.

5. FLAGON 13 inches high.
London hall mark of 1831. Makers mark W.B.

Inscribed on body "**DON DE Thomas Massy, James Waint ET Elizabeth Le Messurier &c. A L'EGLISE DE ST. PIERRE DU BOIS.**"

Underfoot :

<i>Thos. Brock</i>	<i>R E G I E U R</i>	}	1833.
<i>A. Le Mesurier</i>	<i>C U P S A G E U R S</i>		
<i>A. Lenfestey</i>			

On edge :

W. Bateman jun fecit Bunhill Row London.

∴ This was bought with the proceeds of the sale of the ancient plate in 1831.

VI.—THE FOREST.

The plate here is all of 18th century manufacture or earlier. The usual bason or platter is found and the tasteful little baptismal ewer replaced, according to the inscription engraved on it, the usual Le Messurier ewer, when it was "reformé" or melted down. The usual type of cup, as shown in the Introduction, are also found here.

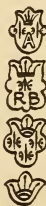
There are seven pieces in all.

1. CUP.

The marks on this are peculiar. There are four, viz. : all maker's marks. They deface other marks, but the London hall mark of 1698 is distinguishable and also the leopard, but the original maker's mark is obliterated.

∴ This obliteration of the English marks by others is not at all uncommon in Guernsey.

Inscribed round bowl *A . L E . G L I Z E . D E . L A . F O R E S T .*




2. CUP, similar to No. 1.

Marks as No. 1, but defacing other marks, which are indistinguishable.

Inscribed as No. 1.

3. BASON or PLATTER 14 $\frac{3}{4}$ inches diameter.

London hall mark of 1694. Maker's mark 

Inscribed round rim "*Don fait par Le Sr Nicollas Allez De La Paroisse De La Forest à l'Eglise de la Ditte Paroisse, liuré par les Srs Anthoigne Fautrat & Henry De Jersey Tuteurs De ses Deux fils 1694.*"

4. FLAGON 10 $\frac{3}{4}$ inches high.

No date mark. Maker's marks   

Inscribed on body "*Donné par Monsieur Nicolas Allez du Carouge pour l'usage de l'Eglise de la Paroisse de la Forest l'Annee 1756.*"

5. EWER 6 inches high.

London hall mark of 1789. Maker's mark * 

Inscribed on body "*Reformé par Guillaume Allez, Jean Le Lacheur, Curateurs 1790,*" and round foot "*Don d'Elizabeth Le Mesurier—Veuve du Sr. Pierre Le Mesurier—de la Paroisse de St. Pierre du—Bois pour Baptiser les petits Enfants de la Paroisse de—la Forest.*"

∴ Apparently this replaced the Le Mesurier ewer and the original inscription was copied on to the new ewer.


6. SALVER or PATEN with foot 7 $\frac{1}{2}$ inches diameter.

No date mark. Maker's mark 

Inscribed underneath "*Pour le Service de l'Eglise de la Trinite de la Forest.*"

* Hester Bateman (O EP).

7. SALVER or PATEN on three feet 7 inches diameter.

London hall mark for 1778. Maker's mark * 

Inscribed underneath "*Don des Srs ILPV & IML. Fait pour le service de la Table de la Communion de la Paroisse de la Forest 1779.*"

∴ LPV is probably Le Prevost, ML Moullin or Mollet. It is customary in Guernsey to take the first letter of each syllable of the name to express the monogram.

* John Schofield (O E P).

THE SUNSHINE OF GUERNSEY FOR THE YEAR 1913.

BY MR. A. COLLENETTE, F.C.S.

THE year 1913 has been a year of great gloom. The duration of sunshine has fallen off so that the record for gloom has again been broken.

It will be remembered that, as far as Guernsey is concerned, 1912 proved to total less sunshine than any of the preceding nineteen years, but bad as was 1912 with 1,704 hours instead of 1,925, which had been our average, 1913 has fallen below and has totalled 1,691 hours only.

I have therefore to draw the attention of the Society not only to a lowered average but to a greater range.

The average during the last three years has been brought down from 1,925 to 1,905 hours. The range of sunshine, that is the difference between the sunniest and the least sunny year was, three years ago, 490 hours; now the range is 524 hours.

It will be seen by the tables published that the falling off is almost entirely in the summer sunshine, or it may be stated as follows: "The winter months have been a little below their averages, but the summer months have been markedly below." Still this is not true of the separate months, for some have exceeded their averages, but not to the extent of counterbalancing the gloomy months. February was 11 hours over its average. January, March, April, May, June, July, August and September, that is 8 out of 9 months, lost 366 hours. October, November and December helped February in lessening the loss, their excesses reducing the year's total loss to 204 hours.

Two records have been made by the separate months. April's total is the lowest so far recorded and October's total the highest.

The records of the year were made in April and October. April, which was 17 hours below its previous lowest, and October, which had an excess of 2 hours over its previous record. The fact that October has broken its own record three times since 1908 helps to prove that while the Summer sunshine has been growing less, that of the Autumn has gained ground.

The sunless days were 4 above the average, but so small an increase with so large a falling off of sunshine is indicative of a shortening of the daily totals, hence we are not surprised to see that the mean daily values are 4·6 hrs. instead of 5·2 hrs.

TABLE I.

DURATION OF SUNSHINE AND
Campbell-Stokes

Months	SUNSHINE.								
	Monthly Totals.		Nearest Hours.		Percentages of the Possible.			Mean Daily Values.	
			(Previous)						
	1913.	20 Years' Averages.	Highest on Record.	Lowest on Record.	1913.	20 Years' Averages.	Highest on Record.	1913.	20 Years' Averages.
	1	2	3	4	5	6	7	8	9
January	41	58	82	28	15	21	30	1·2	1·8
February ..	96	85	119	45	36	29	40	2·9	3·0
March	141	146	228	84	38	39	62	4·5	4·7
April	112*	195	261	129	27	48	63	3·7	6·5
May	199	248	339	181	41	52	72	6·4	8·0
June	236	246	314	192	49	51	65	7·9	8·2
July	187	266	382	171	38	55	78	6·0	8·6
August	229	239	326	186	51	54	74	7·3	7·7
September ..	173	186	269	107	46	49	72	5·7	6·2
October	159*	121	159	111	48	33	48	5·1	3·6
November ..	71	69	113	40	25	25	42	2·3	2·3
December ..	47	46	71	18	18	17	28	1·5	1·4
The Year ..	1691	1905	2213	1691*	38	42	50	4·6	5·2
Highest	236	266	1899						
Lowest	41	46		1913					

* New Record.

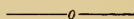
TABLE I.
PREVALENCE OF CLOUD.

Instrument.

SUNSHINE.			Sunless Days.		Sunniest Days.			CLOUD.	
Differences from Averages Columns 1 and 2.	Proportion of the Year's Total.				1913.		Previous Record.	0 to 10.	
	1913.	Averages.	1913.	Averages.	Duration.	Day.		1913.	Averages.
10	11	12	13	14	15	16	17	18	19
- 17	2.4	3.1	14	10	5.3	2nd	8.5	7.3	6.6
+ 11	5.4	4.5	7	6	8.5	11th	9.7	6.4	6.2
- 5	8.3	7.7	2	3	9.8	24th	11.8	5.8	5.5
- 83	6.5	9.8	4	1	11.8	23rd	13.6	7.0	4.8
- 49	11.7	13.1	2	1	14.7	25th	14.7	6.1	4.5
- 10	14.4	13.1	0	1	15.6	29th	15.6	5.4	4.9
- 89	11.5	14.0	2	0	14.5	21st	15.5	5.9	4.6
- 10	13.4	12.7	0	1	12.9	6th	13.9	5.5	4.6
- 13	10.2	9.8	0	1	11.9	11th	12.4	5.6	4.6
+ 48	9.3	5.9	3	4	10.0	9th	10.8	5.3	5.9
+ 2	4.2	3.7	6	7	7.0	22nd	8.8	7.1	6.4
+ 1	2.7	2.6	10	11	6.0	13th	7.9	7.7	5.8
204	100	100	50	46	15.6		15.6	6.2	5.3

THE RAINFALL OF GUERNSEY FOR THE YEAR 1913.

BY MR. A. COLLENETTE, F.C.S.



1913 may be spoken of as a year of average rainfall for the total is only 0"39 below the present average of 71 years. There was an excess right up to September, but during that month the excess was lost and a small but persistent deficit set in.

The year started with a wet January. March, April and July were wet, but the intermediate months being dry an alternation occurred, so that the line of monthly rainfall consisted of a series of oscillations.

In September the fall was low but higher than August, then a sudden jump from 1"7 to 5"5 in October occurred. November and December are of opposite signs, but they balanced each others departures from the average.

The months therefore arrange themselves equally as dry and wet months, as follows :—

DRY.	in.	WET.	in.
February	- 1'41	January	+ 2'21
May	- 0'24	March	+ 1'03
June	- 1'39	April	+ 0'39
August	- 1'13	July	+ 0'85
September	- 1'28	October	+ 0'54
December	- 0'40	November	+ 0'44

76% of the year's total fell in the wet months.

The wet days are 30 in excess of the average, hence it is certain that the falls were less heavy as a rule.

As regards the distribution of rainfall over the whole island the previously ascertained facts are confirmed.

The west of the island, as represented by the Forest and St. Peter's stations, show differences from the St. Martin's Road totals of 4"52 and 5"69 respectively.

The Forest total is only 84% and the St. Peter's 87% of that of the St. Martin's Road.

These differences did not hold true for every month, but the rule was well borne out.

Owing to the larger number of wet days there have been no long interval between the falls, hence no droughts or partial droughts.

The diagram showing the lowest falls and the years that follow is repeated this year.

Heavy falls have occurred and are tabulated in Table IV. Four occurred at St. Martin's Road, but only three at the Grange, two at five of the other Stations and one at St. George and Villiaze.

In table V. will be found a comparative statement of the Rainfall of Alderney, Sark and the Guille-Allès Library, supplied by Mr. B. T. Rowswell.

TABLE I.
RAINFALL AT ST. MARTIN'S ROAD.

Months.	Rainfall. Inches.			Greatest fall in one day.		Percentage of Monthly Falls to the year's total.		Wet Days.	
	Monthly Tls.		Difference between Cols. 1 and 2.	Amount Inches.	Day.	1913.	Normal.	1913.	Averages.
	1913.	71 years' Averages.							
January ..	1 5·98	2 3·77	3 + 2·21	4 0·71	5 29th	6 16·6	7 10·3	8 26	9 19
February..	1·20	2·61	- 1·41	0·40	7th	3·3	7·1	12	16
March	3·64	2·61	+ 1·03	1·11	16th	10·0	7·1	22	16
April	2·69	2·30	+ 0·39	0·37	16th	7·4	6·3	20	15
May	1·83	2·07	- 0·24	0·30	11th	5·2	5·6	17	11
June	0·67	2·06	- 1·39	0·18	11th	1·8	5·6	14	11
July	3·00	2·15	+ 0·85	2·19	29th	8·3	5·9	8	11
August ..	1·31	2·44	- 1·13	0·44	26th	3·6	6·6	10	12
September	1·69	2·97	- 1·28	0·32	13th	4·7	8·1	14	14
October ..	5·49	4·95	+ 0·54	1·32	1st	15·2	13·5	21	19
November	4·92	4·48	+ 0·44	0·81	5th	13·6	12·6	25	19
December	3·72	4·12	- 0·40	1·15	5th	10·3	11·3	23	19
The Year .	36·14	36·53	- 0·39	2·19	July 29	100·0	100·0	212	182

TABLE II.
DISTRIBUTION OF RAINFALL OVER THE ISLAND.—1913.

Inches.

Months.	South & South East.			East.		West.		South-West.		Whole Island Means of all Stations.
	St. Martin's Road.	Les Blanchés.	Hautnez, Forest.	Villa Carey, Grange.	Colborne Villa, Rohais.	Mont Saint.	St. George.	Les Hêches, St. Peter-in-the- Wood.	Villiaze, Forest.	
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January	5·98	5·91	5·53	5·79	6·21	5·71	5·90	5·62	4·84	5·72
February....	1·20	1·04	1·04	1 13	1·25	1·11	0·99	0·96	0·75	1·05
March	3·64	3·38	3·45	3·53	3·51	3·39	3·12	3·27	3·07	3·37
April	2·69	2·59	2·66	2·63	2·67	2·42	2·39	2·54	2·37	2·55
May	1·83	1·90	2·37	2·09	2·10	2·00	2·14	1·71	1·90	2·00
June	0·67	0·75	0·81	0·65	0·62	0·42	0·56	0·63	0·78	0·65
July	3·00	2·89	2·65	2·66	3·06	3·09	2·36	1·85	2·55	2·68
August	1·31	1·24	1·18	0·99	1·31	0·91	1·31	0·91	1·11	1·14
September ..	1·69	1·92	2·18	2·02	1·59	1·72	1·64	1·35	1·52	1·73
October	5·49	5·23	5·11	5·45	4·84	4·65	4·56	4·70	4·35	4·93
November...	4·92	4·70	4·15	4·58	4·72	4·18	4·97	4·52	4·23	4·55
December...	3·72	3·54	3·01	3·32	3·27	2·42	3·21	3·56	2·98	3·22
The Year...	36·14	35·09	34·14	34·84	35·15	32·02	33·15	31·62	30·45	33·62
Comparisons	100	99	94	96	98	88	92	87	84	93
Wet Days...	212	200	194	196	200	152	224	185	195	195
Observers ...	Mr. A. Collenette.	Mr. B. Rowswell.	Waterworks Co.	Dr. F. Carey.	Mr. T. Guilbert.	Mr. S. C. Curtis.	Rev. Stevens Guille.	Mr. F. Lilley.	Waterworks Co.	

TABLE III.
PREVIOUS YEARS OF LOWEST RAINFALL WITH THE 5 YEARS
BEFORE AND AFTER THE MINIMA.

In.	1853	1854	1855	1856	1857	1858	1859	1860	1861	1862	1863
56											
46								48.04			
36	34.98						43.41				
26		29.29	30.42	30.36	31.90				31.22	32.50	34.47
						25.03					
In.	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875
56											
46								56.96			
36	43.30	44.43									
26			37.07	34.76	32.99		36.26		37.72	35.38	36.28
						27.05					
In.	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	
56											
46											
36	40.88	37.72						46.16		46.51	
26			34.12	33.43	34.00		34.00		37.11		36.14
						26.22					

TABLE IV.

HEAVY FALLS OF RAIN AT ALL STATIONS—1 INCH AND OVER.

Dates.	St. Martin's Road.	Les Blanchés.	Hautnez.	Grange.	Rohais.	Mont Saint.	St. George.	St. Peter's.	Villiaze.
March 16th ..	1·11		1·15			1·03			
July 29th	2·19	2·09	1·88	1·80	2·18	2·40	1·50	1·23	1·89
October 1st ..	1·32			1·15					
December 5th..	1·15	1·14		1·05	1·00			1·19	

TABLE V.

RAINFALL OF ALDERNEY, SARK AND THE GUILLE-ALLÈS LIBRARY.

Supplied by Mr. B. T. Rowswell.

1913.	LE HURÉT, ALDERNEY.†		VALLÉE DU CREUX, SARK.†		GUILLE-ALLÈS LIBRARY, MARKET.*	
	Inches.	Days.	Inches.	Days.	Inches.	Days.
January	4·97	25	4·62	25	6·15	27
February	1·38	8	1·11	6	1·17	9
March	3·52	18	2·40	19	3·67	20
April	2·29	16	2·20	16	2·54	16
May	1·68	13	1·72	16	2·00	18
June	0·65	6	0·40	9	0·65	12
July	1·15	8	1·54	8	2·62	8
August	0·92	9	1·29	8	1·55	8
September	3·61	14	1·17	9	1·35	11
October	4·13	16	3·62	17	5·56	19
November	4·44	24	3·77	22	4·88	24
December	2·92	15	3·25	18	3·41	19
The Year	31·66		27·09		35·55	
Wet Days		172		173		191

* Elevation, 52ft. 8in.

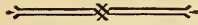
† Elevation and Altitude not given.

Altitude O.D., 100ft.

RULES OF THE GUERNSEY SOCIETY
OF NATURAL SCIENCE AND
LOCAL RESEARCH.

*Amended by resolution of Extraordinary General Meeting held on
January 22nd, 1913.*

RULES OF THE SOCIETY.



1.—That this Society shall be called “The Guernsey Society of Natural Science and Local Research.”

2.—That the main objects of the Society shall be the study and investigation of the Fauna and Flora, Geology, Meteorology, Archæology, Folk-lore and Language of the islands of Guernsey, Alderney, Sark, Herm and Jethou (commonly called the “Bailiwick of Guernsey”), the holding of meetings for the reading and discussion of papers, the exhibition of specimens, and the publication from time to time of such papers and notes as may be deemed worthy of permanent record.

3.—That the annual subscription shall be seven shillings and sixpence, payable in advance, on the 1st of January; and in order that the Treasurer may prepare his annual statement of account, any Member who has not, before the 1st of December, paid his or her subscription for the current year, shall be deemed to have withdrawn from the Society, and his or her name shall not be included in the ensuing list of Members.

4.—That new Members of this Society may be elected at any of its meetings by a majority of votes, notice of proposal having been sent in writing by two members to the Secretary at least a fortnight before the meeting, so that the names of those proposed may be communicated to the Members on notice convening the meeting. Should the notice not reach the Secretary by the time above specified, the proposed member shall be nominated at the meeting

and the election will take place at the following one. The Summer Excursions will be considered to be meetings for the purpose of election of new Members.

5.—That the Council, or governing body of the Society, shall consist of a President, one or more Vice-Presidents, an Honorary Secretary, an Honorary Treasurer, and six ordinary Members, all of whom (except the President and Vice-Presidents) shall be elected by ballot at each Annual General Meeting; and of these five shall form a quorum.

6.—That Secretaries of the various sections of the Society shall be elected at each Annual Meeting.

7.—That the President shall be appointed by the Council, and shall not hold office for more than two years in succession, the retiring President then becoming a Vice-President.

8.—That Ordinary Meetings for the reading of papers, exhibition of specimens, recording of notes, field work, &c., shall be held once every month during the winter, notice of the same being sent to each Member, and such meetings shall be free to Members and friends introduced by them.

9.—That annual Sectional Reports be received and read at the December meeting; and the Annual General Meeting to receive the Report and Balance Sheet of the out-going Council, and for the Election of Officers, be held either in December or January; and that notice of such meeting be sent to each Member seven days before the meeting.

10.—That the Council shall make such arrangements as may be required, from time to time, for Ordinary Meetings, Excursions, Professional Lectures, Exhibitions, &c.; and the right is reserved to the Council of fixing a price of admission for Members or Non-Members.

11.—That notice of the meetings of the Council shall be issued by the Secretary at least three days before each meeting, intimating its object.

12.—That on receipt of a request in writing signed by any five Members, the Secretary or Acting Secretary shall convene an Extraordinary Meeting within two weeks of the receipt of such request.

13.—That notice of an Extraordinary Meeting of the Society shall be sent to each Member not less than seven days before each meeting.

14.—That the *Transactions* of the Society for each year shall be published in the spring of the following year; and every Member who has paid his or her subscription for the year to which the Transactions refer shall be entitled to a copy free of charge.

15.—That persons under the age of twenty may be admitted as Junior Members, on payment of an annual subscription of two shillings and sixpence; but such Junior Members shall not vote, or receive gratuitous copies of the *Transactions*.

16.—That no addition to, or alteration of, these Rules shall be made except by a majority of three-fourths of the Members present at an Annual General Meeting, or at an Extraordinary General Meeting convened for the purpose, fourteen days' notice of such proposed alteration or addition being sent to each Member.

Copies of previous Transactions of the Society can be obtained, price 2/6 each.

A limited number of sets from the commencement can be obtained at special prices on application to the Secretary.

GUERNSEY

SOCIETY OF NATURAL SCIENCE

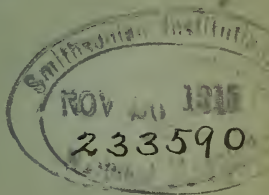
AND

LOCAL RESEARCH.

—:0:—

REPORT AND TRANSACTIONS

1914.



Guernsey :

RICHARD'S PRINTING & PUBLISHING COMPANY, LTD.,
BORDAGE STREET.

1915.

GUERNSEY
SOCIETY OF NATURAL SCIENCE
AND
LOCAL RESEARCH.

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COUNCIL FOR THE YEAR 1915.



PRESIDENT:

MISS A. L. MELLISH, M.A.

VICE-PRESIDENTS:

1895—MR. E. D. MARQUAND, A.L.S.

1897—MR. A. COLLENETTE, F.C.S.

1905—DR. J. AIKMAN.

1907—REV. W. CAMPBELL PENNEY, M.A.,

Principal of Elizabeth College.

1911—SIR WILLIAM CAREY, Bailiff.

1913—LIEUT.-COL. T. W. M. DE GUÉRIN.

1915—MR. F. L. TANNER, F.Z.S.

HON. SECRETARY:

1913—MR. S. C. CURTIS, A.R.I.B.A.

HON. TREASURER:

1911—MR. C. G. DE LA MARE.

COMMITTEE:

1899—MR. J. L. PITTS, F.S.A. (Normandy).

1909—MR. B. T. ROWSWELL.

1911—REV. F. E. LOWE, M.A.

1914—MR. R. METMAN.

1915—MISS C. M. DE GUÉRIN.

1915—MR. D. B. CROMARTIE.

LIST OF MEMBERS (1914).



- 1891—Aikman, Dr., M.D., C.M., L.R.C.S. Queen's Road.
 1903—Aikman, Mrs. Queen's Road.
 1903—Aikman, Miss Queen's Road.
 1904—Allès, Mr. G. F. Gothic Cottage, St. Martin's.
 1911—Banks, Mr. T. B. High Street.
 1912—Bescoby, Mr. A. C., B.Sc. Care of Elizabeth College.
 1914—Miss S. J. Best Brickfield Villa, St. Andrew's.
 1882—Richard, Mr. T. M. Varendes, St. Andrew's.
 1904—Bishop, Mr. Julius, Jurat of the
 Royal Court. Grange Road.
 1903—Bishop, Dr. Henry Draper, M.D.,
 M.R.C.S., L.R.C.P. Yandilla, Grange Road.
 1907—Bisson, Mr. T. The Laurels, Vale.
 1904—Blampied, Mr. C. B. La Fosse, St. Martin's.
 1910—Blicq, Mr. J. E. Melrose Villa, Brock Road.
 1914—Blicq, Mrs. J. E. Melrose Villa, Brock Road.
 1912—Blocaille, Mr. E. La Chaumette, Forest.
 1912—Bourde de la Rogerie, Rev. A. Burnt Lane.
 1911—Brownsey, Mr. J. Pollet.
 1913—Butler, Mr. Edmund. Delancey.
 1889—Carey, Mr. F. Summerland, Mount Durand.
 1890—Carey, Mr. J. J., late M.I.C.E.,
 F.R.G.S. Les Pins, Cobo.
 1897—Carey, Miss E. The Elms, Cambridge Park.
 1908—Carey, Mr. T. W. Somerset Place, Queen's Road.
 1891—Carey, Sir William, Bailiff of
 Guernsey Queen's Road.
 1890—Carré, Miss B. Elm Grove.
 1913—Carré, Miss Marjorie* Care of Ladies' College.
 1911—Carruthers, Dr. J. College Terrace.
 1907—Chalmers, Mr. A. L. Corbière, St. Pierre-du-Bois.
 1911—Cheeswright, Miss E. S. The Studio, Sark.
 1913—Clarke, Mr. F. J. Mount Durand.
 1912—Clarke, Mrs. F. J. Mount Durand.
 Cohu, Mr. E. O. York Avenue.
 1913—Cohu, Rev. J. R. Aston Clinton Rectory, Tring.
 1882—Collenette, Mr. A., F.C.S. Brooklyn, Fort Road.
 1882—Collings, Colonel A. H. Grange Road.
 1890—Collings, Miss M. B. 24, Saumarez Street.
 1912—Collings, Miss Amy 24, Saumarez Street.
 1882—Cole, Miss R. 39, Canichers.
 1906—Corbin, Dr. E. K., M.R.C.S. Saumarez Street.
 1908—Corbin, Miss R. Stanley Road.

* Junior Member.

- 1913—Cresswell, Dr. W. G. La Banquette, Cobo.
 1899—Cromartie, Mr. D. B. Le Tarlat, Côtel Road.
 1912—Curtis, Mr. S. Carey, A.R.I.B.A. . . Le Mont Saint, St. Saviour's.
 1893—De Guérin, Lieut.-Col. T. W. M.,
 Jurat of the Royal Court.. . . . Le Mont Durand, Mount Row.
 1893—De Guérin, Miss C. M. Le Mont Durand, Mount Row.
 1906—De Jersey, Colonel Grant.. . . . Cambridge Park.
 1882—De La Mare, Mr. C. G. Croûtes.
 1894—De Sausmarez, Right Hon. Lord . . 43, Grosvenor Place, London, S.W.
 1913—Dorey, Miss Claire* Care of Ladies' College.
 1893—Durand, Colonel C. J. The Villa, Grange.
 1913—Durand, Miss E. M. The Villa, Grange.
 1913—Durand, Miss F. M. de la C. . . . The Villa, Grange.
 1906—Falla, Mr. A. Les Hauteurs, Vale.
 1904—Fleure, Dr. Herbert J., D.Sc... . . University College, Aberystwyth.
 1908—Foote, Advocate W. H. 6, New Street.
 1896—Foster, Miss F. A. Granville House.
 1905—Guilbert, Mr. T. J., States Surveyor Rohais.
 1912—Guille, Rev. H. G. de C. Stevens,
 Jurat of the Royal Court. St. George, Castel.
 1882—Guille, Miss S. Cressington, Gravées.
 1893—Harvey, General J. R. Oakleigh, Mount Durand.
 1906—Henry, Mr. S. M. Commercial Bank.
 1893—Hocart, Mr. J. S. Les Mielles, Vale.
 1911—Hocart, Mr. A. J., Jurat of the
 Royal Court.. . . . Blanc Bois, Castel.
 1903—Kelson, Mrs. Doyle Road.
 1914—Kinnorsly, Dr. G. E., Jurat of the
 Royal Court.. . . . Calais, St. Martin's.
 1882—Le Cocq, Mr. Saumarez Clifton Lodge.
 1912—Le Feuvre, Miss C. Brock Terrace.
 1913—Le Masurier, Rev. A. G. St. Matthew's, Cobo.
 1912—Le Messurier, Mr. H. C. Beauséant, St. Martin's Road.
 1903—Le Mottée, Colonel G. H., Jurat of
 the Royal Court May Trees, Hauteville.
 1911—Le Pelley, Mr. J. Q. Vauvert.
 1912—Le Pelley, Mr. H. City & Midland Bank, High-street
 1882—Lowe, Rev. F. E., M.A., F.E.S.,
 Membre de la Société Lepidop-
 tère de Genève St. Stephen's Vicarage.
 1911—Luff, Mr. E. A. La Chaumière, Brock Road.
 1903—Macleane, Mr. E. F. H. La Bigoterie.
 1894—Mainguy, General F. B., ex-Jurat
 of the Royal Court Les Rocquettes.
 1888—Marquand, Mr. E. D., A.L.S... . . 2, Earl Street, Cambridge.
 1896—Marquand, Mr. H. E. Star Office, Bordage Street.
 1914—Marett, Prof. R. R. Exeter College, Oxford.
 1907—Mauger, Mr. H. E., H.M.'s Sheriff.. Bon Air, St. Martin's.

- 1900—Mellish, Miss A. L., M.A. Ladies' College.
 1911—Metman, Mr. R. Les Vaurioufs, St. Martin's.
 1913—Molesworth, Hon. C. R. Dunlery, Ville-au-Roi.
 1908—Moon, Miss A. Les Fontaines, King's Road.
 1913—Moon, Mr. J. A. Les Fontaines, King's Road.
 1913—Moon, Mrs. J. A. Les Fontaines, King's Road.
 1905—Naftel, Mr. A. M. 13, George Road.
 1907—Nicolle, Mr. E. T. 3, Norfolk Terrace, Jersey.
 1914—Ozanne, Miss C. St. Martin's Rectory.
 1914—Parkes, Mr. J. W.* Elizabeth College.
 1899—Penfold, Rev. J. B. V. Beaumont, Cambridge Park.
 1889—Penney, Rev. W. C., M.A. Elizabeth College.
 1882—Pitts, Mr. J. L., F.S.A. (Normandy) Guille-Allès Library.
 1906—Randell, Miss Clara Grove End, Doyle Road.
 1896—Robilliard, Mr. P. E. La Piette.
 1903—Robinson, Dr. E. L., M.R.C.S.,
 L.R.C.P. Melrosc, Gravées.
 1914—Rolleston, Mr. W., M.A.
 1904—Rowswell, Mr. B. T. Les Blanchés, St. Martin's.
 1907—Sincl, Mr. Joseph 12, Royal Crescent, Jersey.
 1911—Smith, Mr. W. H. Racine, Doyle Road.
 1909—Spencer, Mr. R. P. Brock Road.
 1903—Tanner, Mr. F. L., L.D.S., R.C.S.,
 F.Z.S. Vauvert House.
 1905—Tanner, Mrs. Vauvert House.
 1893—Tourtel, Rev. R. H., M.A., B.D.,
 F.S.A. (Normandy) Torteval Rectory.
 1913—Tourtel, Miss M. Havilland Vale, St. Martin's.
 1906—Végeais, Miss Brock Road.
 1912—Warren, Mr. J. P., B.Sc. 10, Mount Row.
 1903—Wild, Dr. H. S., M.R.C.S., L.R.C.P. Gravées.
 1908—Woolcombe, Dr. Robert Lloyd, M.A.,
 LL.D., F.R.G.S., M.R.I.A. . . 14, Waterloo Road, Dublin.

NEW MEMBERS (1915).

- Leale, Mr. H. C. Vale House, Vale.
 Moore, Mrs. F. Queen's Road.
 Slocombe, Miss M. Ladies' College.

* Junior Member.

William Sharp.

IT is the inevitable but none the less deplorable result of our Society having attained the thirty-third year of its useful existence that we have to mourn the gradual loss by death of some of our earliest and most attached members. We have had to chronicle with sorrow the demise of several of our most valued and successful workers in recent years. Last year death carried from our midst, though not from memory, a most popular and justly esteemed member in the person of WILLIAM SHARP. His connection with the Society began with his arrival in the Island in 1883, to take up the post of Principal in the then newly-formed States' Intermediate School for Boys. His kindly readiness to undertake any quiet, unobtrusive work at once marked him out for office. At the close of the year he became Secretary to the relief of Mr. W. A. Luff, who had combined Secretarial duties with those of Treasurer. He held this office until December 19th, 1900, when he was unanimously chosen to the Presidential Chair, on the proposition of Mr. Luff, seconded by Mr. Collette. His address as retiring President at the Annual Meeting, December, 1902, was recognised on all sides as being of exceptional merit and interest. It was a stimulating and most able review of the twenty years (since its foundation) of the Society's work in every branch of its activities. Mr. SHARP himself did not specialize in any department of Natural Science, but took a keen interest in all researches and investigations made by members. A most regular attendant at all meetings and excursions, he often contributed by intelligent questioning to the elucidation of obscure points in papers read, or concerning exhibits

made. Probably his chief interest lay in Marine Zoology, in which study his son, Mr. Eric Sharp, was making his mark, before leaving the Island for the more serious work, in which he is now employed by the Admiralty, of wireless telegraphy. Mr. SHARP's death, which was quite unexpected, occurred on April 30th, 1914, after a very short illness. He was one of those men who, quite as much as the diligent workers in special fields of science, help to keep a Society of local research alive and prosperous. As Editorial Secretary we owe much to him for the accuracy and excellent appearance of our annual publication, *Reports and Transactions*. His loss is felt by a wide circle of friends and more especially by those privileged to close connection with him in the Council Meetings.

TRANSACTIONS OF THE SOCIETY.



Eleventh Annual Soirée.

THE Eleventh Annual Soirée was held on February 18, 1914, at the Guille-Allès Library. The attendance was fair, considering the unpropitious weather. The lectures and the vocal and instrumental music were thoroughly appreciated.

The President, Mr. F. L. Tanner, F.Z.S., in his introductory remarks referred to the fact that he often received letters from Scientists asking for help in research work, and considered that if members worked with Scientists it would be of mutual advantage.

The first lecturette was on "Fossil Mimicry" by Dr. H. M. Joseph, M.A., M.B., B.Sc. The lecturer, to explain his meaning, referred to fern-like tracteries met with in various rocks, sometimes even in our local diorite, which were not true fossils, but due to the percolation of water leaving a metallic deposit.

The other lecturers were Mr. R. J. Fulford, B.Sc., on "Volcanoes," and Dr. J. F. Carruthers, M.B., B.Sc., on "Science among the Moors." All these lecturettes were illustrated by means of the electric lantern.

Monthly Meeting, March 18th, 1914, Mr. F. L. Tanner, the President, in the chair.

Jurat G. E. Kinnersly was elected a member of the Society.

A letter was read from Advocate E. T. Nicolle, of Jersey, giving details concerning coins and tokens issued in Jersey in the early part of the 19th century, and a collection of these with some Guernsey specimens among them was exhibited.

A specimen of vivianite (hydrated phosphide of iron) from Saints' bay was exhibited. This mineral derives its phosphorus from the decomposition of organic matter.

Col. T. W. M. de Guérin read a paper entitled "Notes on some Old Documents," which will be found *in extenso* in these *Transactions*.

The first excursion of the season took place on Thursday, April 30th, 1914. The locality chosen was the neighbourhood of Rouse and Pulias. The weather was cold and wet, and the numbers of members who took part, small. The principal object of interest was the beach at Rouse, and the reader is referred to Mr. A. Collenette's paper elsewhere in these *Transactions* for the geological features of the said beach.

On Saturday, May 16th, another excursion, attended by about 18 members, took place, starting from Brock Road at 2.30 p.m. The selected spot, "Les Tielles," Torteval, was reached after a delightful drive. The cliffs, which have been visited by the Society on several previous occasions, are the grandest in Guernsey, and their descent or ascent is difficult and dangerous. The party however chose a comparatively easy path descending to the beach, which is very rough and requires scrambling over large masses of rock and spurs of the cliffs. These cliffs were examined under Mr. Collenette's guidance, and the reader is again referred to his paper. Some of the party scrambled to a cave the mouth of which is about 30 feet above the beach, but only 10 feet above high water mark. This cave is about 70 feet in depth and its mouth is very low. It is used by fishermen for storing their crab-pots, and a flat-bottomed boat was found drawn up inside. There seems no prospect of finding prehistoric remains in it.

On Thursday, June 25th, an excursion devoted to Marine Zoology took place under the guidance of Mr. J. Sinel, the well-known Jersey naturalist, the field of work being the beach to the south of the town.

Another excursion under the same guidance, also partly devoted to Marine Zoology, took place on Saturday, June 27, and proved the most successful excursion of the year. The following is a detailed account of it.

EXCURSION TO THE NORTH-EASTERN PART OF GUERNSEY.

One of the most successful excursions organised by the Guernsey Society of Natural Science took place on Saturday afternoon last. The locality selected was the north-east part of the Island, and the departure took place at two o'clock from the quay in a motor char-a-banc and a motor jubilee car. About thirty persons embarked, and between fifteen and twenty cycled to Bordeaux Harbour, where a stop was made, and a party numbering fifteen proceeded under the charge of Mr. J. Sinel, of Jersey, to study Marine Zoology.

The ride was continued to the dolmen at Paradis, called "Tu Dus." In anticipation of the Society's visit Mr. A. Le Tissier, who lives near by, had obtained the key, and the party crowded into the prehistoric structure, where a short and interesting address was given by Mr. S. Carey Curtis.

In his remarks he explained how, at the end of the 18th century, a public-spirited Guernseyman, Mr. Jean de Haviland, who feared that the dolmen might be broken up and its stones sold for building purposes, purchased the dolmen and thus ensured its preservation.

The Tu Dus dolmen was opened in 1837 by Dr. Lukis, who partially cleared it of an accumulation of limpet shells and several layers of interments. He found that besides the main chamber to which access is gained through a narrow passage pointing to the east, and covered with great stones, there was to the right of the passage a small burial antechamber which in turn led into a smaller one. On the left hand side there are two more of these small chambers. In both instances the cap-stones of the latter have disappeared, or rather, one appears to have fallen in and now forms the floor, and the other has been dragged right away from its original position.

When one of the smaller chambers was opened, two skeletons were found in a kneeling position, but the bones crumbled away when an attempt was made to move them. A very large number of urns were discovered during the excavations, and they are to be seen in the Lukis Museum.

A few years ago further excavations were made by Rev. G. E. Lee and Capt. Lukis, when several feet in depth of soil and limpet shells were removed. The States having taken charge of the Ancient Monuments in the Island caused this dolmen to be repaired and strengthened and enclosed by an iron railing. It is now in a state of perfect preservation and is covered with enormous stones, one of which is estimated to weigh twenty tons.

Mr. Collenette then gave a short address from the top of one of the cap-stones, and told the party how the dolmen was surrounded by a circle of stones, all of which were hidden by vegetation, but they were still in position. He also added that the ground on which the party stood was a fifty-foot level beach, and that for a very considerable distance around, at a depth of a few inches, beach stones were found.

There is usually a splendid echo at this spot, but on Saturday it was very faint.

From here the party proceeded to view the site of the neolithic potter's kiln at Noirmont, opposite Miellettes Bay.

The kiln has unfortunately been destroyed by blasting operations in the quarry opened near its site, but was inspected a few years ago, before it had been entirely blown away, by a few members of the Society. Some of the bricks and clay of which it was composed are now in the Guille-Allès Museum. A few fragments of burnt clay from the remnants of the kiln were secured by some of the party. At this quarry, in a cutting, Mr. Collenette showed those interested signs of the glacial epoch through which the Island had passed at an unknown period, and pointed out the layers of clay and gravel which had been deposited at the place indicated, by the movement of the ice.

The party then proceeded through La Route des Chapelle to the house called St. Magloire, in the neighbourhood of which Mr. Collenette said at one time two chapels existed, La Grande and La Petite Chapelle. Unfortunately no trace is left of either.

The party visited the house now known as St. Magloire, which has the reputation of being the oldest in the Vale Parish. Tradition says it was built in the year 1111. It certainly is extremely old, as may be gathered from the enormous thickness of the walls and the smallness of the windows. On the south side there is a circular staircase in stone—about 15 steps—which leads to the chamber. The roof is thatched, and the principals are composed of timber of the roughest description, and apparently of great antiquity. The flooring is supported by strong beams, also very roughly finished. Some of the beams consist of vessels' masts or bowsprits, which are said to have been taken from wrecks which occurred on the coast of the Vale. There is an enormous fireplace. It is so large, that to meet modern requirements part of it has had to be partitioned off. In the north wall, which is about three feet thick, an alcove was made of sufficient depth to accommodate household utensils of considerable diameter. The interior, throughout, is certainly one of the quaintest which can be seen in the Island.

With regard to St. Magloire or St. Maglorius, to whom the chapels which stood near by at a very distant period were dedicated, he was a nephew of St. Sampson, explained Mr. Curtis to the party, and was born of noble parents in the diocese of Vannes in the year 535. At an early age he was educated by his uncle and returned with him to Dol. On his uncle's death, Magloire succeeded him as Archbishop of Dol. But he soon tired of his dignity, and retired from the world, and tried to end his days in quiet. But the fame of

his piety and the wonderful cures of diseases which he effected, got abroad, and crowds of pilgrims came to him. Amongst these was a certain Lord of the name of Loyesco, who at that time held the Island of Sark. Magloire healed him of a supposed incurable complaint, and in return Loyesco gave him a considerable portion of the Island of Sark, where he founded a school for missionaries. St. Magloire died in Sark in 617, and was buried there. But his body was removed to Jersey, lest the Danes should get hold of it, about the commencement of the 9th century. In 857 it was taken to Léhon, near Dinan, and finally, in the year 937, to Paris, where it was deposited in the church which bears his name. (This ancient and historic building, we are sorry to say, no longer exists, having been destroyed by fire on March 26, 1915.)

Bidding farewell to the relics of very early times, the party turned their attention to the 20th century, and proceeded to inspect the Platte Fougère lighthouse station at Fort Doyle, by kind permission of the Supervisor, Mr. Julius Bishop. Here the installation was fully explained by Mr. E. O. Catford, the engineer in charge, who devoted a considerable amount of time to pointing out all that was of interest in the station. At his direction one of the great oil engines was set in motion and commenced to force air into the cylinders, which are constructed in the adjoining fort. When the air pressure in these had reached a sufficiently high point, the clock that regulates the valve which admits air into the syren was set in motion. In a few minutes a buzzing sound was heard. Then suddenly the syren gave tongue. The sound was terrific and deafening. After a short pause it gave another roar, and then was silent for 90 seconds, when it uttered two more thrilling blasts. This was repeated half a dozen times, the machinery was then disconnected, and the air shut off from the syren. The demonstration was most interesting, and Mr. Catford was heartily thanked for the valuable information which he had given the party.

A move was next made to the waiting motor-cars, and the drive was resumed to the bungalows at L'Anresse, where tea was served.

At six o'clock the party drove to Bordeaux, where those who had studied the pools and their inhabitants on the seashore were picked up, and the return journey was made. There is nothing to report about the marine zoological class, as very little could be done owing to the rapidly rising tide.

The next excursion was to Perelle Bay and l'Erée on July 16. The attendance was not large. The first point of interest was the menhir near Fort Richmond, and the details of the Coast Section were noted by the geologists. In Perelle Bay Mr. Collenette called attention to a deposit of sand mixed with organic matter overlying clay and beach, for particulars of which reference should be made to his report elsewhere in these *Transactions*. The dolmen at Catiaroc was visited and the storm beach at l'Erée was pointed out. Notwithstanding its height above the level of high tide, the sea during the storms of last winter swept over it in immense volumes and demolished part of the boundary wall of the fields across the road.

Other excursions had been planned, but did not take place owing to the outbreak of war.

Monthly Meeting held November 18th, Mr. F. L. Tanner, the President, in the chair.

Mr. S. Carey Curtis read an exhaustive report from the Society of Antiquaries of London, on the Cross, Candlestick, &c., discovered in June, 1913, in the belfry of St. Sampson's Church. By the kind permission of the Society this report with illustrations is reprinted in another part of these *Transactions*.

Thirty-second Annual Meeting of the Society held on Wednesday, December 9th, Mr. A. Collenette in the chair.

The report of the Entomological Section was read by Rev. F. E. Lowe, and that of the Ornithological Section by Mr. B. T. Rowswell. Mr. S. Carey Curtis read the Antiquarian Section's report. The Council's report was read by Mr. S. Carey Curtis, and the Treasurer's by Mr. C. G. de la Mare.

The elections were postponed to the next monthly meeting.

Monthly Meeting held January 27th, 1915, Mr. F. L. Tanner, the President, in the chair.

Mr. A. Collenette exhibited a quantity of flint chips found in the cliff behind Park Street. Some of these appeared to be palæolithic and some neolithic.

Mr. F. L. Tanner's term of office having expired, Miss A. L. Mellish, M.A., was elected President.

Mr. S. Carey Curtis was re-elected Secretary.

Mr. C. G. de la Mare was re-elected Treasurer.

Messrs. J. L. Pitts, B. T. Rowsell, R. Metman, the Rev. F. E. Lowe, Miss C. M. de Guérin and Mr. D. B. Cromartie were elected as Council.

The retiring President then read his valedictory address.

Mr. A. Collenette, F.C.S., read his paper on the Sunshine and Rainfall of Guernsey and the other islands of the Bailiwick in 1914.

Report of the Council, 1914.

The Meetings of the Society were held with the usual regularity during the summer of 1914, until the beginning of August, when the unexpected outbreak of War caused the Council to decide, in view of the uncertainty prevailing, not to hold any more Excursions.

The Council trust that the two classes in Marine Zoology held by Mr. J. Sinel on June 25th and 27th may be successful in bringing more workers into this extensive field of Research, especially among the younger members. In the Botanical Section, the Council has to regret the departure of Mr. R. Metman, who has been called to the Colours on account of the war, and trusts that he may be spared to prepare many further Botanical Reports for the Society. No report of this Section is available therefore this year.

The first outdoor excursion took place on 30th April. The ground selected was the Grand Havre and Rousse. Mr. A. Collenette made a discovery during this excursion, which may prove of great importance in the future as regards the Geological formation of the island. It is fully described in these proceedings.

The second excursion took place on May 16th, when the coast-line near the Tielles was reached. It had been hoped that caves similar to the Palæolithic Caves at La Cotte, in Jersey, might be met with, but none were found. Several interesting geological items were examined and, aided by the magnificent weather, a most interesting and enjoyable day was passed.

The third excursion was held on June 27th. The dolmen of Du Tus, the site of the Chapel of St. Magloire, the installation of the Platte Fougère Lighthouse, and the site of the Neolithic Potters' Kiln at Noirmont, were visited.

The fourth excursion took place on July 16th to Perelle and L'Érée. Owing to counter-attractions there were very few members and visitors present. The menhir at Richmond and the dolmen at Catoroc, otherwise "Le Trepied," were examined, and also some geological observations were made of interest.

The fifth excursion on August 1st, owing to the mobilization of the Royal Guernsey Militia and the expected outbreak of war, was so poorly attended that it was abandoned.

Another excursion which promised to be of exceptional interest was to have taken place on August 22nd to Brecq'hou and Sark, when an exceptionally low tide would have permitted the Gouliot Caves to have been thoroughly examined; but owing to the outbreak of war, it was decided to cancel this and any further excursions.

Papers were read during the indoor sessions by Mr. A. Collenette on the Rainfall and Sunshine of 1914, and also on the Geological Results of the Summer Excursions, and by Lieut.-Col. T. W. M. de Guérin, entitled "Notes on some old Documents."

MEMBERSHIP.

The members this year are 105 as against 113 last year.

OBITUARY.

We have to deplore the sudden death of Mr. W. Sharp, on April 30th, 1914. He was in 1901-2 President of the Society, and was probably the most regular attendant at Council and Ordinary Meetings. His place as Editor of the *Transactions* for many years will be difficult to fill. An appreciation of his work in connection with the Society appears in another part of the *Transactions*.

The Council of the Society has again to offer its thanks to the Directors of the Guille-Allès Library for their continued interest in its work, for the use of the room for the meetings, for the Lantern and for the use of the Great Hall for the Soirée, and also for its assistance in the production of slides for some of the meetings.

The donations and exchanges during the year have resulted in the following additions to the Society's Library:—

From Col. C. J. Durand, Grange-road, St. Peter-Port:—

Flora of Dumfriesshire, including part of the Stewartry of Kirkcudbright, by G. F. Scott-Elliot, M.A., and others, 1896.

From La Société Jersiaise, Jersey:—

Actes des États de l'Île de Jersey, 1788-1790 and 1790-1792.

Journal de Jean Chevalier, 9me Fascicule et Table des Matières.

Trente-neuvième Bulletin Annuel, 1914.

From the Hertfordshire Museum, St. Alban's:—

Scientific and Economic Aspects of the Cornish Pilchard Fishery, by H. Swithinhank and G. E. Bullen (Mera Publications, Part 1 and 2), 1913 and 1914.

From the Torquay Natural History Society, founded 1844:—

Journal of the Torquay Natural History Society, Vol. I., No. 6, 1914.

From the Queensland Museum, Brisbane:—

Memoirs of the Queensland Museum, Vol. 2. Edited by the Director, R. Hamlyn-Harris, D.Sc. Illustrated, 1913.

From M. Charles Janet, Voisinlieu, par Allonne (oise):—

L'Alternance Sporophyto-Gamétophytique de Générations chez les Algues. Illustré, 1914.

From Portici, Italy:—

Bollettino del Laboratorio di Zoologia Generale e Agraria della R. Scuola, Superiore d'Agricoltura in Portici, Volume VII., 1913.

From the United States of America:—

Cincinnati, Ohio. Three Bibliographical Contributions (Botanical) from the Lloyd Library.

Philadelphia.—Proceedings of the Academy of Natural Sciences of Philadelphia, Vol. LXV., Part 3, 1913, and Vol. LXVI., Parts 1 and 2, 1914. Illustrated.

Washington.—Library of Congress, Reports for the year 1913.

Washington.—Smithsonian Institution. Annual Report for the year ending June 30th, 1912. Illustrated, 1913.

Washington.—Smithsonian Institution. Report of the U.S. National Museum for the year ending June 30, 1913.

ABSTRACT OF THE TREASURER'S ACCOUNT.
C. G. De La Mare, Treasurer, in Account with the Guernsey Society of Natural Science.

1914.	Receipts.	£ s. d.	1914.	Payments.	£ s. d.
Balance of last year's account	27 18 0		Expenses connected with Soirée	1 1 0	
Proceeds of Soirée	3 17 11		Cost of <i>Transactions</i>	38 6 10	
Copies of <i>Transactions</i> sold	0 16 9		Collection of Subscriptions	1 12 4½	
” of pamphlet on dolmen sold	0 18 2		<i>Star</i> Printing Co., amount of accounts	0 18 2½	
Subscriptions for 1913	2 17 6		<i>Press</i> Co., amount of accounts	4 9 1	
for 1914	36 7 6		Banks & Co., Register Book of Members	0 15 0	
Interest on deposit at Bank	0 15 8		Caretaker	0 16 5½	
			Postages, &c.	24 19 9½	
			Balance in hand.....	£73 11 6	
	<u>£73 11 6</u>				

Examined and found correct, December 10th, 1914.

J. LINWOOD PITTS, }
BASIL T. ROWSWELL, }

Auditors.

C. G. DE LA MARE, *Hon. Treasurer.*

PREHISTORIC RESEARCH FUND.

1914—Balance in hand from last year	£ s. d.
1911—Interest on Deposit at Bank	7 6 9
	0 3 8
Balance in hand to new account	<u>£7 10 5</u>

Report of the Antiquarian Section for 1914.

There have been no discoveries of great importance to record during the year.

During the excavation of the roadway, necessitated by the alterations to Church Hill, a conduit was met with which proved on examination to have been in bygone times the passage for the water from one of the streams in Fountain Street to the pump at the eastern end of the Town Church. It was, however, dry, and had apparently not been in use for many years.

During the military operations which took place owing to the outbreak of war, many trenches were dug on l'Ancrese Common, and it was possible that some discoveries of antiquarian interest might be met with, and a careful watch was kept for any hitherto unknown dolmen or kists, but none have up to the present been found.

The Society of Antiquaries of London has been good enough to forward to our Society its report on the relics found in 1913 in the belfry of St. Sampson's Church, and permission has been obtained for our Society to publish in its *Transactions* this report and also to reproduce the excellent photographs which accompany it. The report (which follows) was read and the photographs were handed round for inspection at the usual meeting on the 18th November.

S. CAREY CURTIS,
Hon. Sec. Antiquarian Section.

[From the *Proceedings of the Society of Antiquaries*, Nov. 27, 1913.]

The REV. WILLIAM TAYLOR, Rector of St. Sampson's, Guernsey, sent for exhibition a number of latten objects lately discovered in St. Sampson's Church, on which the SECRETARY made the following remarks:

"We have to thank our local Secretary, Dr. Marett, for the opportunity of seeing the very interesting group of latten objects exhibited here to-night by the Rev. William Taylor, Rector of St. Sampson's, Guernsey.

They were found under the following circumstances on 20th June, 1913. It had become necessary to rehang the bell; and the plan adopted was to erect a steel frame whose footings should be on a level, or thereabouts, with the crown of the stone vault of the tower, the ground floor of which is used as a baptistery. The haunches of the vault were found to be filled in with rubbly soil nearly to the underside of the wooden floor of the bell-chamber, and this soil was being cleared away, in order to put in concrete footings for the bell-frame, when a loose stone was noticed in the south wall of the tower. Its removal disclosed the entrance to a small chamber in the wall, and in this chamber were found the objects you now see.

They consist of a cross, part of a censer, two standing candlesticks, part of a triple candlestick intended to be set in a socket, four branches, and a loose bowl and pricket.

The cross (fig. 1) is of a type with which the Society is familiar, and the example in our own collection is shown for comparison.

It is provided with a socketed base, in which it stood on the altar, but when occasion required it could be taken off its base and used as a processional cross, set on a long staff. Compared with the Society's specimen, it will be seen that it is not its equal in workmanship, and is moreover, except that it retains its base, less perfect, having lost the lozenge at the foot of the cross and the sockets which carried the brackets on which stood the figures of our Lady and St. John. The three remaining lozenges, at the ends of the arms, are engraved with the IHS, instead of the evangelistic symbols as on our specimen; and at the back have a design of four leaves, instead of suns. The stem and arms have a running leaf pattern on both faces and plain bevelled edges from which spring foliate crockets. The figure of our Lord is in good preservation, and the three nails fastening it to the cross are still in their places. The knop at the foot of the cross is hexagonal, the faces of the bosses being engraved with four-leaved flowers, and alternating with the bosses are leaf-shaped raised figures above and below, with a tracery pattern on them. The socketed circular base is domed, with a gadroon ornament issuing from beneath a projecting ring with an open cresting of crosses and fleurs-de-lis, from which in turn rises the cylindrical socket over which the socket of the cross fits. It has a six-lobed foot to steady it, engraved with a hatched zigzag pattern.

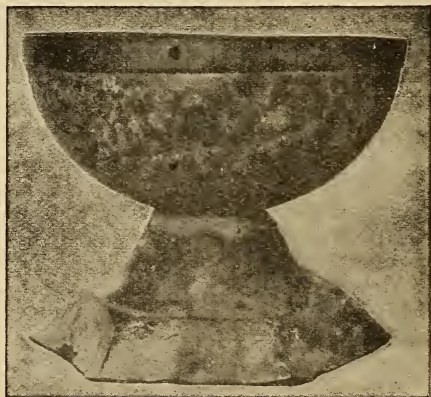


Fig. 2. BOWL OF CENSER, ST. SAMPSON'S, GUERNSEY ($\frac{1}{2}$).

The lower half of a censer (fig. 2) is of a very simple form, such ornament as it had being doubtless reserved for the upper half, which is unfortunately missing. The bowl is circular, and the foot worked into an octagon; there are remains of what looks like incense in the bowl.

The larger standing candlestick (fig. 3) is 12in. high to the top of the cup and 18 $\frac{1}{2}$ in. high to the top of the pricket. The cup and foot are circular, with simple mouldings, and there are rings at the middle



Fig. 1. CROSS AND BASE: ST. SAMPSON'S, GUERNSEY ($\frac{1}{5}$)



Fig. 3. STANDING CANDLESTICK : ST. SAMPSON'S, GUERNSEY ($\frac{1}{3}$)



Fig. 4. STANDING CANDLESTICK ($\frac{1}{3}$)

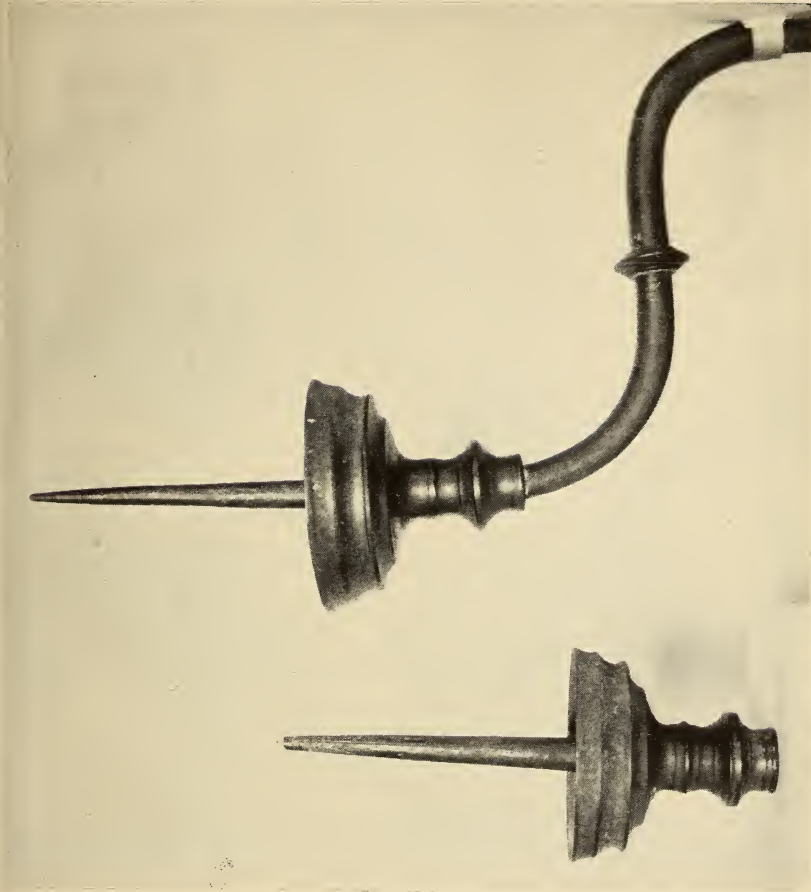


Fig. 6. BRANCH AND SOCKET OF CANDLESTICK ($\frac{1}{3}$)
ST. SAMPSON'S, GUERNSEY



Fig. 5. TRIPLE CANDLESTICK (ONE BRANCH MISSING): ST. SAMPSON'S, GUERNSEY ($\frac{1}{3}$)



Fig. 7. BRANCH FROM A TRIPLE CANDLESTICK ($\frac{1}{3}$)



Fig. 8. BRANCH CANDLESTICK ($\frac{1}{3}$)

ST. SAMPSON'S, GUERNSEY

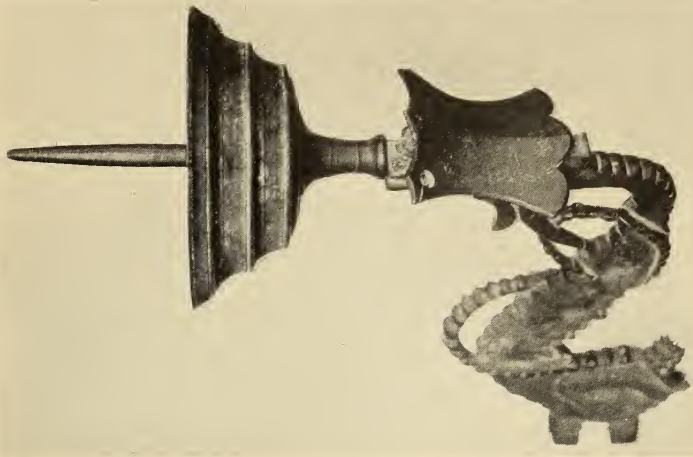


Fig. 9. BRANCH CANDLESTICK, SIDE AND FRONT VIEWS : ST. SAMPSON'S, GUERNSEY ($\frac{1}{3}$)

and both ends of the stem. The second standing candlestick (fig. 4) is of a more elaborate kind, having an embattled bowl, and a base raised on three lion's feet. It is 9½ in. high to the top of the bowl, 12½ in. to the top of the pricket. The triple candlestick (fig. 5), retaining unfortunately only two of its holders, has a pin-hole through its stem at the level of the sockets for its two branches, showing that it was thus fastened to some form of holder or stem. The sockets are marked for fitting with one and two grooves respectively, and the remaining branch has a single groove to identify it as belonging to the single-grooved socket. The four branches are all old pieces; two (figs. 6 and 7) have fitted into ring sockets like that last described, a third (fig. 8) which ends in a beast's head, has been fastened by something like the hanging hook of a door, and the fourth (fig. 9), a remarkable specimen in the form of a dragon-like beast with a curved horn and a long whip-like tail, and having a shield fastened to his lower jaw, has two lugs pierced to fit over a vertical pin.

It will be well, now, before going further, to quote two English inventories dealing with similar objects.

The first is that of Long Melford Church, Suffolk, 1529:

Two great candlesticks.

Two second candlesticks, lately bought, which are called Secondans.

Two small candlesticks to the high altar.

Two small candlesticks to Jesus altar, both of Lattyn.

A candlestick of Lattin, with ten branches, standing before the image of Jesus.

A candlestick.

A candlestick, ten branches, before St. Ann.

A candlestick, with three branches, belonging to the Trinity; and now the said candlestick standeth below the image of St. Nicholas.

A candlestick with ten branches, standing before the high altar.

Two little pretty candlesticks of Lattin, belonging to John Hill's altar.

A candlestick of Lattin, with ten branches, now in the vestry.

A candlestick of Lattin, with three branches, now in the vestry.

The second is of St. Mary's Guild, Boston, 1534:

Two great candelstickes of latten.

Two secondary candelstickes of latten.

Two lesser candelstickes of latten standing at the altar ende.

A litill candelstick of latten standyng of three lions.

An other lesse candelstyk standyng afore owr lady.

Two litill candillstickes of latten standyng on the high altar of owr lady.

A candlestick of latten w^t two flowres for the morow masse.

An other litill candelstik of latten w^t two flowres for one of the side altars.

Two other litill candelstickes of latten w^t two pynnes,

Two latten candelstickes standyng uppon the altar.

These are the outfits of a well-appointed church and a wealthy guild, and are on a more lavish scale than St. Sampson's could probably attain to. The first three items in each inventory are similar, and refer to the lights near the high altar, namely, two great candlesticks or standards, two lesser candlesticks or secondans, and two small candlesticks standing at the altar end, not on the altar, but probably on the iron rod from which the costers or riddels hung; and from the St. Mary's Guild inventory it is also clear that there were two little candlesticks standing on the high altar also. The branched candlesticks, of ten or three branches, stood before various images, but one is said to stand before the high altar.

We may therefore consider that the candlesticks exhibited may be described as belonging to a set of latten, and to consist of one secondan which could also be carried in procession, one altar candlestick, and remains of several sets of branched candlesticks. The triple candlestick may be another form of a three-branched candlestick, but it may also be for the Judas candle or candles used in the Easter Even service. This was properly a taper made of three candles twisted together into one at the bottom and separating above into three, fastened to a staff for carrying them. As a substitute for

this triple candle three separate candles were sometimes fixed on to a frame.

Their use was to carry the new fire into the choir for lighting the great paschal candle.

The remaining branches may have been part either of standing candlesticks, like those in the inventories, an elaborate development of which may be seen in the drawing of Abbot Islip's hearse at Westminster;¹ or they may have been attached to wall sconces. The dragon candlestick and that ending in a beast's head are perhaps in the second category, and fitted into sconces, the other two being parts of standing candlesticks.

We know nothing of the history of these objects beyond what has been already said, but a few suggestions are possible.

In the first place, the date of all is approximately the same, namely, 1500 to 1520. From the circumstances of their finding they were evidently intentionally hidden, probably with a view to their re-use if ever, as Mr. Roger Martin, of Long Melford, said in 1580, the time should serve.

The inference is, also, that they belonged to St. Sampson's Church, though of course this cannot definitely be stated. The Channel Islands being more remote in the sixteenth century than now, the changes of the Reformation were somewhat slow in taking effect, and indeed can hardly be said to have made themselves a dominant factor till 1565, when Guernsey was transferred from the diocese of Coutances to that of Winchester. This may suggest a date for the disuse and concealment of such church fittings, and the excellent condition of all is a further proof that they never fell into unsympathetic hands. The gilding of the cross, particularly of the base, is so complete, allowing for the natural tarnishing due to over three centuries of disuse, that it seems likely that the cross was in use up to the moment of its removal to the safe hiding-place in the haunch of the tower vault.

The last observation which I should wish to make is that the cross, on the analogy of other examples, has every appearance of being English work, nor is there anything in the other pieces to suggest a different origin.

We may therefore conclude, with due reservations, that we have here the remains of an English-made service of latten, acquired by St. Sampson's early in the sixteenth century, hidden about 1565 by an adherent of the old faith, and fortunately preserved intact till our own days, in which we may hope that their safety is definitely assured."

Mr. CRACE asked whether any other pockets of the vaulting had been examined for relics of the same kind.

Mr. HOPE remarked that the series was curiously made up of odd pieces, as if they had been preserved from spoliation in the hope of completing the sets later. The work was almost certainly English, the crown on the foot of the cross, for instance, having alternate crosses and fleurs-de-lis, as on the candle-bracket in front of the grate of Henry VII.'s chapel at Westminster (formerly at Windsor).

Mr. BARRON agreed as to the provenance of the exhibit. He was familiar with the products of Dinant-sur-Meuse, but recognized something different in the Guernsey specimens, which were inferior to Dinanderie properly so called. They could not have been made at Dinant, as that town had been previously sacked by Charles the Bold.

Mr. VALLANCE noted a resemblance in the foot of the crucifix to one from Stoke Poges illustrated in *Proceedings*, xxiii. 49, but did not feel sure that the foot exhibited originally belonged to the crucifix. Three lumps round the foot-rim would be visible if the candlesticks had

¹ *Vetusta Monumenta*, vol. vii.

ever had feet. The bowl of a censer was rarely found, covers being comparatively common. The branches suggested that the candles were placed in front of consecration crosses. Outside Salisbury Cathedral Church there were ten (out of twelve) discs $2\frac{1}{2}$ ft. in diameter, each with a small hole $2\frac{1}{2}$ in. below for fixing a candle.

The PRESIDENT had no doubt about the English origin of the exhibit, which had a general resemblance to Dinanderie, but by a process of elimination could be narrowed down to England. Church goods would at that date have been more naturally supplied from France, but they would in that case have been of superior workmanship. In the absence of proof to the contrary that type of cross might be considered English, and several examples were known. The thanks of the Society were due to the vicar and churchwardens for a most interesting and unusual exhibition.

Report of the Entomological Section, 1914.

In Guernsey, insects were late in appearance in the Spring and up to the beginning of June this year. From the middle of June to the end of July I was on the Continent, and cannot offer any opinion of the condition of things here. Honey bees and Humble bees were busy at flowers on March 8th, but it was not until March 31st that I saw the first white butterfly, *Pieris rapæ*. On Saturday, May 10th, I was given a pupa of *Zygæna trifolii*, which emerged on June 11th. On May 18th I made an expedition to Pleinmont and found the usual things fairly abundant, such as *Chrysophanus phlæas*, *Lycæna icarus*, *Polyommatus astrarche* and *Cyaniris argiolus*, *Pararge ægeria*, var. *intermedia*, was freshly emerging in the lanes. On the cliffs *P. megæra* was quite unusually abundant, and here, just under the walls of the semaphore, I was fortunate enough to take a beautifully fresh specimen of the very rare aberration *mediolugens* (Fusch), a female. Though this is one of our very commonest butterflies, I have never met with the ab. *mediolugens* before, or seen a specimen in a collection. I believe it to be even most uncommon on the continent. Dr. Seitz, in his large work of the "World's Lepidoptera," which is now publishing, says that ab. *mediolugens* is local in the middle Rhine, and that at Bergstrasse it is said to replace this type; but as the aberration is not on sale in the German trade lists, I venture to doubt this. (I have brought a type specimen to show with the aberration that members may compare them). The next event of interest occurred on August 20, when, in a garden above Saints' Bay, I saw a male specimen of the brimstone butterfly *Gonopteryx rhamni*. This is a rare butterfly in Guernsey. The curious thing is not that it should be rare but that it should occur at all, since the larva feeds upon buckthorn,

Rhamnus catharticus and *Rhamnus frangula*, neither of which plants are found here. It must, however, be able to subsist on something else, as a few specimens of the butterfly may be observed in most years. *Cynthia cardui*, the beautiful "Painted lady," has been more than commonly numerous during the past autumn. On the 18th of August a curious variety of that garden pest, the "Currant moth," came to the light in my study. It is much suffused with smoky black and all the typical yellow markings are absent. (I have brought it here to-night with a type specimen for comparison.) It is a matter of regret, from a collector's point of view, that interesting aberrations among the Lepidoptera of Guernsey are very infrequent. I should imagine that the reason of this is the lack of extremes in our climate. It has been determined that the three chief factors in producing eccentric forms are excessive heat, cold or moisture, and that these influences are effective in producing variation chiefly immediately after pupation; this especially is the case in the influence of moisture. For a very short time after pupation, the chitinous covering of the pupa is soft and sensible to the effect of wet, but after this has hardened moisture cannot penetrate. One other insect alone deserves notice this year and that is the pretty little *Tortrix pronubana*. I had the pleasure of first discovering this moth in the year 1898. It had not then been known in England, but as I predicted in the "Entomologists' Record" (Vol. XII. 317), if search was made for it in the South, where *Euonymus* is grown, it would be turned up in the Mother Country. This prophecy was fulfilled a few years later, and Mr. Robert Adhin bred a long series from shoots of *Euonymus* growing at Eastbourne. My excuse for recalling all this ancient history is that I regret to say that I have reason to think the species is dying out with us. It had become quite abundant in August, September and the beginning of October, until the last three years, when I began to notice its comparative scarcity. Last year I saw but two examples in all. Should I unhappily be right in my surmise, it is the less easy to understand the reason, as *Pronubana* has proved to be by no means particular as to its diet. It does not restrict its attentions to bushes like *euonymus*, for I have found it feeding on such diverse plants as the yellow toad flax and the garden geranium, and Mr. Luff bred a specimen from the fruit of the tomato. It should then find comfortable and abiding quarters in Guernsey.

FRANK E. LOWE,

Secty. Entom. Section.

Report of the Ornithological Section, 1914.

In last year's Ornithological Report I referred to the experiments inaugurated at the St. Catherine's and Casquets lighthouses with a view to protecting birds during the great spring and autumn migrations. Attracted by the powerful light the birds are irresistibly drawn to it, and thousands lose their life in consequence. Unable in the darkness of night to resist the magnetic influence of the dazzling spot of brightness ahead of them, they fly towards it and, circling round and round the lantern, finally drop exhausted into the water or unto the rocks below.

The idea of the Dutch ornithologist Thijsse that much of this terrible sacrifice of bird-life might be avoided by the construction of perches round the lighthouse lantern and platform for the little tired-out travellers to rest upon has been justified in fact. It was the success of experiments carried on in this direction on the coast of Holland that decided the Elder Brethren of Trinity House, when approached by the Royal Society for the Protection of Birds, to sanction the erection of perches on some of the English lighthouses. That at St. Catherine's in the Isle of Wight, and the Casquets off Alderney were selected for experiments in 1913, while this summer the South Bishop Lighthouse, off Pembrokeshire, South Wales, has also been fitted with rests.

And what are the results? In the Summer Number, 1914, of *Bird Notes and News*, in an article entitled "Round the Lighthouse Lantern," we read that ". . . the reports received at the end of 1913 were satisfactory. The keepers stated that large numbers of birds had settled on the rests on many nights, and expressed the opinion that the lives of considerable numbers must be saved because they did, undoubtedly, as Mr. Thijsse had said, flutter round about the light, and when they found the perches, would remain on them until dawn."

The opinion of the Head Keeper at the Casquets is given as follows in the Winter Number, 1913, of *Bird Notes and News* :—

"During the last few days of August [1913] large flights of birds were passing the station, and during the night a large number of small birds settled on the perches. On most nights in October a few birds settled, and on the night of October 25 the perches were completely covered with starlings."

Personally I think it extremely interesting that the Casquets light should have been selected as one of the first

experimental stations of this sort off the English coasts and shall look forward to further reports of the keepers on the subject.

In the Notes which follow you will see that, as in previous years, I have been again ably assisted by several members of our Society, and others, to all of whom I tender hearty thanks for their co-operation in this branch of our work. I regret to say that one who for some years had very kindly supplied me with valued notes for his neighbourhood, has passed away. I refer to Mr. E. Durman, the late genial proprietor of the Victoria Hotel, St. Saviour's, who died on November 20th, 1913, at the premature age of 41 years.

Our old friend and ex-President, Mr. E. D. Marquand, A.L.S., writing to me on April 21, from Oxford, where he now resides, said: "Thanks very much for your very interesting bird notes. You in Guernsey are much earlier than we are here in the Midlands. The Chiff-chaff and the Willow Wren arrived last week, but only to-day I heard the first joyous note of the Cuckoo! How it recalls the description of Wordsworth:

' No bird, but an invisible thing,
A voice, a mystery!'

None of the Swallow tribe have so far put in an appearance. But I am daily listening for the song of the sweetest of them all: the Nightingale! I wish you could feast your ears upon it."

Writing to me again on May 5, Mr. Marquand deplored the non-arrival of the Wryneck, and said he supposed the bird did not visit Oxford. So far it has never been my good fortune to hear the Nightingale, but often as I have longed that that little bird included Guernsey in its range of migration I should be deeply sorry for a spring to pass and not hear the delightfully heartening call of the Wryneck.

With these introductory remarks I will now proceed to give you the results of the year's observations.

Chiff-Chaff.—The note of this always early arrival was not heard until March 28, when I heard it in the Bon Air valley at St. Martin's. This is nine days later than its recorded arrival last year and is also my latest date by one day for first hearing the bird. On the 29th Mr. George de Carteret, sen., noted the call at Saints, and on April 3rd the little migrant could be heard singing all over Moulin Huet even more so than the Cuckoo. The Chiff-Chaff reminds one of its presence all through the lengthening days of summer and well on into July. In August a period of quietness comes over the bird, and then with the advent of September one begins to hear the note again. This year I heard it twice in October, the last time being on the 16th, at Les Blanchés, but the little fellow had no heart in his song and soon gave it up as a bad job. In 1908 Mr. E. D. Marquand heard one as late as October 22nd at the Talbots, St. Andrew's.

Wheatear.—Mr. J. S. Hocart, of Les Mielles, Vale, gives me March 30th as the date when the Wheatear appeared in his neighbourhood. This is four days earlier than last year. At St. Martin's I did not see the bird until April 28th. On that day one was feeding on the Petit Port cliffs. As regards their departure Mr. Hocart wrote me: "I cannot give any date for its disappearance from my observing ground, L'Ancrese. I missed the bird in the latter part of September, and although I visited the Common several times in October, failed to see any." The Wheatear usually stays with us until well past the middle of October, but my own observations confirm Mr. Hocart's and point to the bird having left our shores decidedly early. On September 24th I saw several near Fort Le Marchant, L'Ancrese, two at Petit Port, St. Martin's, on the 25th and 29th, and the last, near Bordeaux, on October 1st. Last year the bird was seen up to October 25th, and in 1908 as late as November 3rd.

Wryneck.—The Wryneck was heard at St. Martin's by Jurat Kinnersly on April 1st, and by several people at Torteval also on the same day. This is not at all a late date for the arrival of the Cuckoo's mate. On April 3rd one was singing with charming freshness and vigour at Les Blanchés for fully twenty minutes between 8 and 9 a.m. I was able to approach the little songster quite closely and enjoy a feast of Wryneck music seldom vouchsafed to anyone I should imagine on the first day of hearing the ever-welcome note. Mr. Hocart, at the Vale, did not hear the bird until the 12th, and reports that he only heard it once afterwards, while many people in that parish did not hear it at all and believed the migrant had failed to come this season. At St. Martin's we were more fortunate, but I must say that my last date for noting the song, June 22nd, was unusually early—in fact it constitutes a record. The Rev. R. H. Tourtel, of Torteval, informed me that he heard the bird yet "on or about" July 10th, a date much nearer the normal than my own.

Cuckoo.—Writing to me on April 8th, Mr. E. D. Marquand asked if I had seen that the Cuckoo had "been heard in many places quite early this year." Well, our own observations confirm those made in England, for the date of arrival of the bird here, April 10th, is the earliest on record by three days for the twelve years, 1903-14. On Mr. Carey Curtis' authority the note was heard near the Mont Saint, St. Saviour's, on that date. In support of this affirmation I have extracted the following from the notes sent me by the Rector of Torteval. He says: "I heard the bird on the 19th April, but Mr. T. Langlois, of Le Grée, heard it on April 14th, and I have good authority for saying it was heard on April 10th, Good Friday." To Mr. Curtis and the Rev. Tourtel's evidence I may add that from a reliable source I was informed that the call was also heard at Baubigny on the 10th. If, however, early to announce itself in some parts of the island, the bird was not heard at St. Martin's until the 17th, when Mr. G. G. Tardif heard one at Petit Port, and the next day Jurat Kinnersly, myself and others came within range of the old familiar note. On this day also Mr. Hocart first heard it at the Vale. At Sark, Capt. Henry, of the Vallée du Creux, heard the bird on the 19th. As regards the dates of last hearing the Cuckoo, Mr. Hocart has given me June 27th for the Vale. At St. Martin's the bird was still calling on July 1st as reported by Miss Boley, Mr. George Allès and others; while for Torteval Mr. Tourtel said: "Heard frequently during the latter half of June, and last heard by Miss Tourtel on 2nd July." In 1912 I noted the appearance of a Cuckoo in the gardens of Clifton and remarked that many years ago one sang there regularly for several seasons. This Spring one was heard there again on the 6th, 7th and 9th of May from the Guille-Allès Library.

Swallow.—On the same day as last year, viz., April 10th, and one day later than in 1912, Swallows were noticed to be arriving. Some were first seen by Mr. Hocart on this date at the Vale. On the 14th I had the pleasure of watching close upon a dozen flying about over the lower reaches of the

Petit Port cliffs. For a whole week afterwards I saw no more, but onwards from the 22nd one began seeing some almost daily and gradually they increased in numbers, but at no time became abundant. The scarcity of swallows remarked in recent years is undoubtedly still continuing, but Mr. Hocart considers that they were rather more numerous this summer than last. At the Vale Mr. Hocart did not see any after October 5th, but I was more fortunate. All through October, on isolated days, I saw a few here and there in different parts of the island, and twice in November I was gladdened by the sight of some still with us. On the 4th of that month I saw two at Les Hubits, and on the 17th one was sporting about over the Moulin Huet cliffs, where I watched the little fellow for several minutes. This is by three days our latest recorded date for seeing Swallows.

House Martin.—Mr. Carey Curtis saw a House Martin at Le Neuf Chemin, St. Saviour's, on April 5th—five days before the reported arrival of the Swallow. Although early (as far as the Society's records go) this is not our earliest date for the appearance of the bird here, as in 1905 Mr. E. D. Marquand saw one on the 3rd of the month. Mr. Hocart has given me no dates either as regards the arrival or the departure of this summer migrant, but he wrote: "Martins were very plentiful in the latter part of the season." In this I agree with him. On the morning of October 16th quite a number were flying about over the Jerbourg fields, and on the 21st (the last day on which I saw any) the bit of St. Martin's between Les Blanchés and the church was literally swarming with them from, at any rate, 7.30 to 10 a.m. I fancy this must have been a flock on migration halting here to feed by the way. It was a very pleasant morning with light easterly breeze.

Sand Martin.—For the second year in succession there is no record of the Sand Martin having been seen here. This is no proof, however, in itself, that the bird has not visited us.

Swift.—The Swift is my favourite of the Swallow tribe, and I always regret that whereas the House Martin and Swallow remain with us for seven months or more of the year, the Swift's stay is limited to about five. He comes last and goes first. But it cannot, I think, be said of the Swift as of the two former migrants, that it is visiting us in smaller numbers, for in recent years there has been a very noticeable increase in the number seen here. I saw the first Swift this season on April 28th, flying high over the Fermain Bay valley. Jurat Kinnersly saw one at Calais, St. Martin's, on May 3rd, and the following day I noticed that two of the little Town Church band had arrived and were disporting themselves in the neighbourhood. On June 9th I made a note to the effect that Swifts appeared to be in greater abundance than Swallows—certainly than House Martins. "Quite a number," I added, "were flying over the Petit Port cliffs this afternoon, and it is not unusual to see some circling about over the garden at Les Blanchés." I kept a watch for the departure of the Town Church band and saw none after August 13th. In the country I saw the bird on three later dates, the last time being August 30th, when I observed one at Les Blanchés fraternising with a party of swallows.

Corncrake.—The Corncrake still comes to the island, but, apparently, not in numbers as formerly. Once only did I hear the pleasant note this summer—on the evening of June 9th at Les Huriaux, St. Martin's. The bird must have haunted that neighbourhood for a few weeks however, for it was heard there by Mr. S. M. Henry, of Mount Row, on June 25th and other days. I much regret that the Corncrake appears to be forsaking the island.

Quail.—Mr. R. P. Spencer told me on March 18th that a Quail had been recently shot here, but was not able to give me date or particulars. The Quail is not by any means a regular visitor to Guernsey. Our Society's

Transactions record that in June, 1907, Mr. E. D. Marquand heard one at St. Andrew's, also that in July, 1911, Jurat Kinnersly shot one at Jerbourg, St. Martin's.

Nightjar.—Again, as last year, there is no record of the Nightjar having been either seen or heard. Being of nocturnal habits the bird might escape observation or be mistaken for a bat unless it happened to utter its peculiar whirring note.

Bittern.—A Bittern (female) was caught and killed by Mr. Frederick Le Page, at the King's Mills, on March 19th. It was bought for the Guillellès Museum and has been set up by Mr. Sinel. The only mention in our *Transactions* of the occurrence of this rare bird visitor to Guernsey in recent years is the record of one being shot at the Grande Mare in the winter of 1904-5 by Jurat Kinnersly. In the "Birds of Guernsey," published in 1879, Cecil Smith speaks of the growing scarcity of the Bittern here, adding that "drainage and better cultivation have contributed to thin their numbers, as it has done in England."

Bar-tailed Godwit.—On October 1st Jurat Kinnersly shot two Bar-tailed Godwits at Vazon. According to Cecil Smith this bird was "a regular and sometimes rather numerous spring and autumn visitant." Now, however, as with so many other birds, it appears to be a decidedly rare visitor. In October, 1909, Mr. Spencer saw four of these birds at Vazon, one of which he shot.

Kingfisher.—On the same day that Jurat Kinnersly shot the Bar-tailed Godwits at Vazon he also saw a Kingfisher at Vazon. Although a resident this pretty bird being far from common now, instances of its having been seen are worthy of putting on record.

Nightingale.—I believe I am perfectly justified in recording the occurrence of a Nightingale here this spring. My informant, Mr. J. E. B. Hill, of the Elms, St. Martin's, who has lived in a Nightingale district and knows the bird well, told me that he saw one at close quarters early on the morning of May 1st in the hollow below the Héchet mill, St. Martin's. The bird was not singing, neither did he see it again, and although he listened for the song on that and succeeding nights he did not hear it. The Nightingale is a very rare visitor to the Channel Islands and apparently even then only halts here momentarily on its journey northward. The *Star* of June 6th, 1863, records the hearing of one in the neighbourhood of Saumarez Street. Coming to more recent times Mr. E. D. Marquand heard one at Saints Bay on the afternoon of April 20th, 1894. And in a paper on the "Birds of Alderney," published in the *Transactions* for 1903, Mr. Marquand has put on record that Capt. Hasted, of the Wiltshire Regiment, who was stationed in Alderney for two years, had both "heard and seen a Nightingale on one occasion" in that island.

Ring Ousel.—A few have again been seen by Jurat Kinnersly, at Jerbourg, this autumn. He saw them at the beginning of November which, he says, is later than usual.

Blackstart.—Mr. Spencer reports seeing a Blackstart on Cambridge Park on November 8th. A few of these birds probably visit us every year, but the number, as with the Ring Ousel and other migrants, is so small as to make the actual observation of any decidedly worth recording.

Little Auk.—Undoubtedly the most interesting record of the year is the occurrence here of the Little Auk (*mergulus alle*). In a letter to Mr. Collenette, dated November 24th, Dr. Creswell told how he had come into possession of one which had been caught by a cat that afternoon in Cobo bay. The Doctor wrote: "As you know the Little Auk is very rarely obtained or even seen in Guernsey, and anywhere in the north is only driven to the coasts by prolonged and severe gales. This specimen, in very fine plumage and condition, was brought into a house (where I was visiting at the time) practically still alive, by their cat, which had

evidently just caught it on the beach or rocks just opposite. Curiously enough on my way home afterwards I saw another specimen on the rocks." There is no Little Auk in the Guille-Allès Museum, and Dr. Creswell's kind offer of the bird for the collection was gratefully accepted. Mr. Sinel, to whom the bird was sent for preserving, said of it: "A splendid specimen. I had one here [Jersey] about two years ago, but not nearly so fine. There is one in the Museum of the Société Jersiaise. It is a rare visitor." Smith in "The Birds of Guernsey" says: "The Little Auk can only be considered a rare occasional wanderer to the Channel Islands, generally driven before the heavy autumnal and winter gales." I may add that just previous to the capture of the Cobo specimen a strong to high east wind had raged for several days.

Moorhen.—"A rather strange looking bird," according to the *Star*, was caught, apparently in an exhausted condition, by Mr. Alfred Le Maitre, in his garden at Pike's Corner, St. Sampson's, on November 23rd. The captive was brought to the Library alive for identification, when it proved to be a Moorhen—another bird not at all common here. For several years past, as recorded in recent numbers of our *Transactions*, a Moorhen has been in the habit of wintering in the Sausmarez Manor grounds at St. Martin's, disappearing as regularly in the spring. Curiously enough nothing has so far (Dec. 9th) been seen of the bird there this winter. About the Moorhen I have an interesting communication from Dr. Creswell. He writes: "Although Cecil Smith treats the Moorhen as a rarity it is certainly to my knowledge a resident and a breeder in Guernsey. I have seen its nest and for the last four winters it has been shot in more than one part of the Castel."

BASIL T. ROWSWELL,
Hon. Sec. Ornithological Section.

Report of the Folklore Section, 1914.

THE PASSING OF GUY FAWKES.

Members who are interested in Folklore may perhaps call to mind that in the Report of this Section three years ago (1911) I drew attention to the gradual passing away of the interest that used to be felt in the Guy Fawkes Celebration on the Fifth of November. The Gunpowder Plot, as you know, was hatched at London in the reign of King James I. (1605)—just over three hundred years ago—and apparently ever since then, in England, the anniversary has been kept up by the lighting of bonfires, the burning of tar-barrels, the firing of squibs, and other similar amusements.

In Guernsey, the celebration seems to have been first introduced about a hundred years ago, near the beginning of the Nineteenth Century, when a considerable number of working-class families came over from the southern counties of England and settled in this Island, bringing with them various popular ceremonial customs—of which this Guy Fawkes business was one. It has therefore been celebrated here for about a century, and now (1914) it seems to have

died out altogether. On this last anniversary in November (1914) I did not see the flame or glow of a single bonfire, or hear any of those noisy detonations which a few years ago used so often to obtrude themselves. The St. Martin's Procession was discontinued some three years since (1911) by the order of the then St. Martin's constables; while the sale of fireworks by the ironmongers in town, as well as by many of the smaller shops, came to naught when the Court enacted (1905) that all vendors of these popular explosives must take out a licence. The shopkeepers felt that the amount of trade done did not really warrant the cost of a licence and so they stopped the business altogether, which nobody regretted, for the annual celebration had become a bit of a nuisance, besides being more or less a public danger.

Looked at, however, from a folklore point of view, the most interesting local feature of the whole affair is the way in which this novel Guy Fawkes' celebration—with its cheerful bonfire—seems at once to have absorbed and superseded the much older Island rite of burying the *Bout de l'An* (Boodlo) or *Old-Year's-End*, which bleak and frigid observance had been practiced in the Island from very distant times.

Probably, too, the English observance itself was merely a transfer of some already-existing and much older rite, and its adoption as a commemoration of this newer projected crime, the attempted perpetration of which must have caused a great sensation at the time. Folklorists, of course, do not know this for certain, because exact records are wanting, but the likelihood of such a transfer is highly probable—much more probable, indeed, than would be the invention and inception of an entirely new ceremonial which would have taken a very long time to spread and become popular, even if it had ever really caught on at all.

A correspondent wrote recently to *Tit-Bits* under the signature of "Henry" and said that our present National Anthem was originally composed for November 5th, and was intended to be sung only on that date as a hymn of thanksgiving and thankfulness for the country's deliverance from the horrors of the Gunpowder Plot. The song is said to have been first rehearsed in 1607 in the Merchant Taylor's Hall, London, before James I., by the gentlemen and children of the Chapel Royal (see *Tit-Bits*, November 21st, 1914, page 265). This statement about the origin and intention of what is now the National Anthem was new to me. I do not remember to have met with it before. If it be true, it may

perhaps throw some light on the doggerel lines that used to form part of one of the stanzas :—

“Confound their politics,
Frustrate their knavish tricks,” &c.

THE LAUNCH OF THE “CONCORDIA.”

The last half century has seen many changes. When I first came to the Island a frequent subject of conversation—especially among those who lived out St. Sampson’s way—was the launch of the brigantine *Concordia* and the peculiar circumstances that characterised that launch. The vessel in question was, in 1836, built by Mr. Stonelake, of St. Sampson’s, whose shipyard then occupied the ground that is now at the back of Mr. Brehaut’s grocery stores. As the *Concordia* was built and launched in 1836, some seventy-eight years have since elapsed (1914), and it naturally follows that all those who were then old enough to take an active part in the affair have since passed away. Fifty years ago many were living who recollected the event, and they often talked about it. I may just mention here that I am indebted for the dates and several other particulars to Mr. J. Le M. Bougourd, the Agent of the Guernsey Steam Towing and Trading Company, who very kindly obtained them for me. Among those who helped to build and launch the vessel was Mr. Peter Le Maitre, who was a shipwright by trade, and was Mr. Bougourd’s maternal grandfather. The family residence was next door to the shipyard, and the Le Maitres took a great interest in the whole affair. In later life, too, Mr. Le Maitre often spoke of the matter to his grandson. The peculiar circumstances were these: When the *Concordia* was finished, and the day of the launch arrived, the usual “ways” leading down to St. Sampson’s Harbour were laid across the road and the vessel was duly started on her course. She seemed to slide along all right for a little way and then, without any apparent cause, she stuck, and although she was comparatively a small and light vessel it was found impossible to move her further. Mr. Stonelake and his assistants were all practical men, well accustomed to the work, and they tried all they knew to get her into the water. Ultimately, the “ways” were reconstructed, a lifting-jack was applied, and each end of the hull was in turn raised quite clear of the bed on which it rested. But all to no avail. There the little craft firmly stuck. Neighbours, of course, began to stroll up to make remarks and give advice, most of them suggesting witchcraft as the detaining force. But this was repudiated on

the part of the builders. It was further pointed out by the more credulous that a bird—probably a sea-gull—for whose presence no one could account, kept mysteriously flying backward and forward across the vessel, and this circumstance was considered more than suspicious. At last some passer-by came up and he also strenuously asserted witchcraft. “But it is no use merely talking about it,” said he, “let us put it to the test. I’ll go and get some salt, and you bring a ladder so that I can get on the deck, and we’ll soon prove whether it is witchcraft or not.” After returning with the salt, the man climbed on to the vessel’s deck and scattered the salt around him; the mysterious bird immediately flew away and the *Concordia* at once, without any more urging, glided into the water. Such is the story. The facts do not seem, any of them, to be disputed. Hundreds of people, at the time, knew all the circumstances, though now the exact details are almost forgotten. The important question is: What caused the sudden change? Of course, to those who believe the witchcraft theory, the solution is self-evident. To those of us who do not believe in witchcraft, no explanation is forthcoming.

As regards the general history of the *Concordia*, Mr. Bougourd supplies the following particulars: When launched, in 1836, she was a vessel of 108 tons; thirty years later, in 1866, she was lengthened and partially rebuilt, when her register was raised to 125 tons. In this enlarged form she traded for another sixteen years, and then, in 1882, she was unfortunately lost on the Newcomb Sands, which lie a little to the south of Lowestoft.

J. LINWOOD PITTS,

Hon. Sec. Folklore Section.

THE GEOLOGICAL RESULTS OF THE EXCURSIONS OF THE YEAR 1914,

TO WHICH IS ADDED DETAIL OF THE WORK OF THE YEAR,
TOGETHER SERVING AS THE REPORT OF THE GEOLOGICAL
SECTION.

BY MR. A. COLLENETTE, F.C.S.

THE Geological Section has found no new levels for raised beaches, but the evidences of a recent submergence involving a part of l'Ancrese Common have been met with. This strengthens the evidence from the Marais and from the L'Islet Dolmen.

The discovery of the old land surface, to be described later, gives proof that the 25' raised beach has suffered erosion and is therefore only a remnant of its original deposit.

It now seems possible to differentiate between the horizontal loëss of the cliffs and the thick clay deposits, but more work of a chemical nature has to be done in order to complete this work.

In rock detail the Section has nothing new to report. The excursions of the summer have given good results and new fields have been opened up.

The excursion to Rouse proved to be somewhat prolific in results. Taking the Geological sectional work first I have to report that a bed of very old date, but so far not correlated with any other in the island, was placed in its proper order of succession as regards two of the previously ascertained deposits.

To make the detail clear to you I must ask you to recall the fact that the Dolmen recently discovered at L'Islet rests on the 25-ft. beach. I have also to remind you that the makers of that Dolmen had scooped out a peculiar sandy deposit which, for want of a better designation, I then called a "black sand." It was not, however, an ordinary sand but a sandy deposit, with enough black carbonaceous matter to give it a black colour.

This I think can better be described as a peaty sand, for evidently the layer was originally a land surface which became peat and by lapse of time lost the bulk of its vegetable matter, becoming peat first then a discoloured sand, its organic matter and clay having been gradually carried away by the water to which it was permeable.

This sand having been disturbed by the Dolmen building must have been *in situ* in their day.

You will also recall the fact that at L'Islet the black layer had been eroded by the action of the sea and varied in thickness in different places around the hougues on which the Dolmen stands.

The black coloured sand was a new deposit to us, and since the discovery of the Dolmen I have been looking for it in other places, one of which was Rouse. The layer which I had noticed was examined by the members, but owing to a want of confidence on my part in the sufficiency of the evidence I said very little of what was in my mind to the assembled members, contenting myself with the statement that for the time being the deposit was not correlated with any of the peat deposits.

Two members of the Jersey Society were present, and I gathered that they did not know of any deposit in Jersey to match this one. I gradually came to the conclusion, after the excursion, that the deposit was evidently not of the forest age, but was a land surface deposited after the 25-ft. beach. Mr. Sinel, to whose opinion we all attach weight, came to the Island and accompanied me to the spot on the 3rd June, and we discussed the evidence with the deposit before us, with the result that we agreed that the facts were as stated.

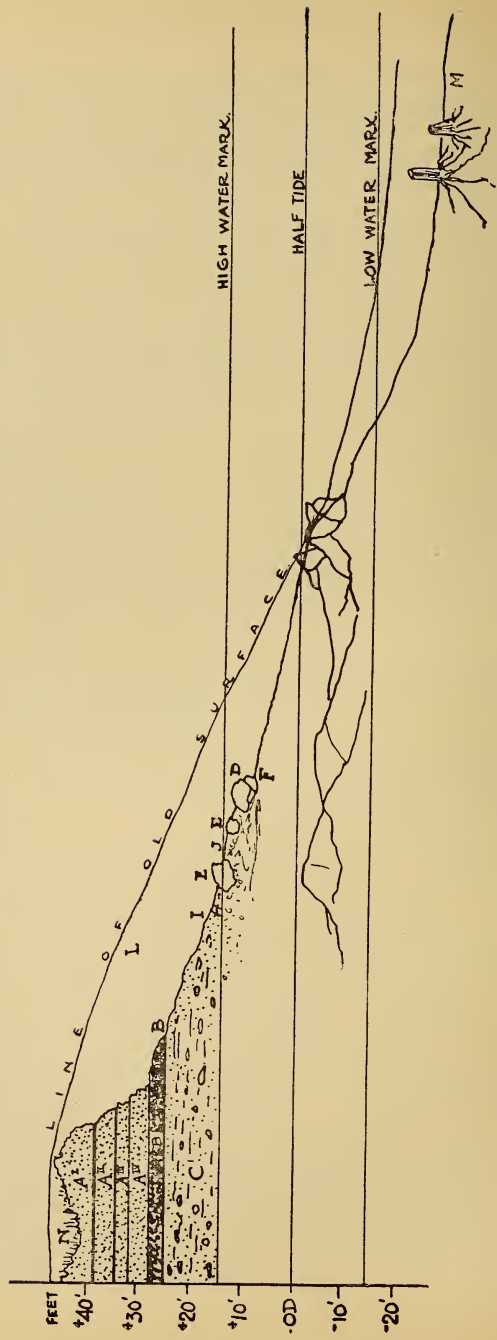
This then constitutes a new discovery, and as far as the Channel Islands are concerned, Guernsey possesses the only deposit of this period.

I shall now take the deposits of the beach at Rouse in the order in which they occur.

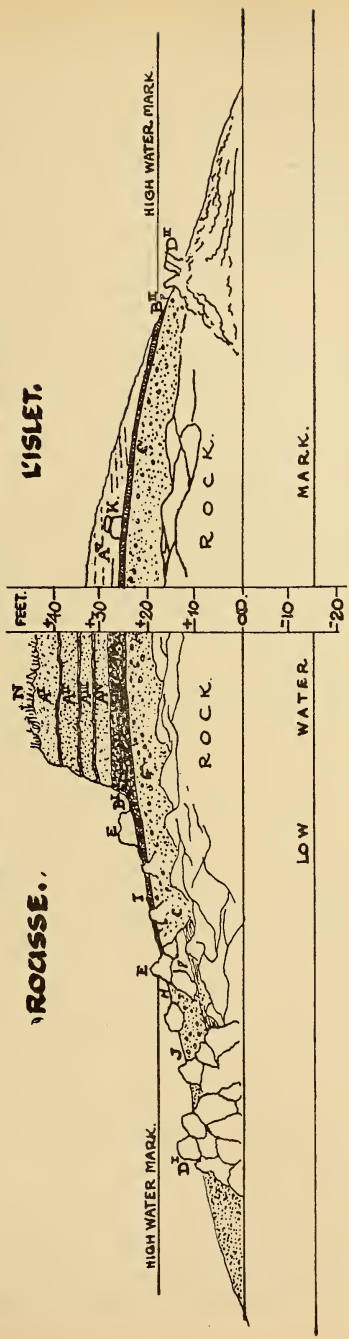
1.—Beginning at the top we have several inches of grass with a sandy soil (N) in which Neolithic flint chippings are found, one being taken from this deposit on the afternoon of our visit. This I look upon as the Neolithic surface now suffering from present day denudation.

2.—Next in order is a deposit, or rather several superimposed deposits of blown sand (A'. A. A''. A'v.) That these have been deposited at different times or that there have been periods of rest accompanied by denudation is evident by the lines of vegetation and layering. There is a difference in the age of the Rouse deposit of sand as compared with the L'Islet one. The latter has been deposited over the Dolmen and is hence postneolithic, but not so at Rouse where the Neolithic finds have, so far, been met with in the grass layer only. The L'Islet sand is only a remnant of a larger deposit which has been removed from the sea side of the cliff.

RELATIVE POSITIONS OF ROISSE BED & L'ANCRESSE NEOLITHIC FOREST.



GEOLOGICAL SUCCESSION OF STRATA.



3.—The layer under the blown sand is hard but not cemented (B), the grains of sand being easily separated from each other with a trowel or knife and it is permeable to water, but it is of a black colour and contains 15% of organic matter. This is, however, quite without clay and organisms, for these although originally present have been destroyed by age and have been carried away by percolating water leaving amorphous carbonaceous matter behind. There is therefore no indication of age from the previous organic life. We have, however, an indication in that the position of the bed resting, as it does, on the 25-ft. beach, its horizontal position and its evident distinctness from the other strata which taken together go to prove that it is an old land surface which followed, probably after a long interval, for it is less consolidated, the 25-ft. beach period.

This is without doubt the same deposit as at L'Islet where it also lies over the 25-ft. beach.

4.—The 25-ft. beach (C) deserves a word or two in this report because there are points of difference between its detail at Rousse and at other places. Here although the upper portions of the beach are where we expect to find them and thus match the deposits in other parts of the coasts, we have the peculiarity of an almost constant exposure below the recent beach of the older one to half-tide mark. Beginning at half-tide are rock masses (D) in a very broken-up condition and in among the detached boulders (E) can be seen the yellow sand, yellow clay and the conglomerated beach.

The 25-ft. beach (C) is here quite solid and in the form of a conglomerated beach. The clay (F) underlying it is indurated and cuts with difficulty, but in places the old accompanying sand (H) is still friable and loose grained, probably for want of a cementing material.

We have therefore in this spot the unusual sight of an extension of the 25-ft. beach to half-tide and the visible erosion of the old beach which is yielding its material to supply the present beach (I).

5.—One other feature is to be noticed, I think for the first time, that is the relation of the detached boulders (E) on the shore to the 25-ft. beach.

I think I may safely say that these have been taken to have been detached by the present sea at its present level, but this is now disproved for the large boulders are found at Rousse imbedded in the old beach, and we must now look upon these as loosened and detached during or before the 25-ft.

beach period and only now being again brought under the influence of the sea.

The black deposit was also picked up at Perrelle during the excursion to that bay. Here it outcrops immediately under the wall at the top of the beach. This had been frequently seen before but was put down to be a part of the upper peat deposit; now it is quite evident that it is identical with the two deposits just described.

Owing to excavations made at various places, new deposits of red gravel and clay have been found. The excavation at the Town Church has disclosed a deposit which throws some light on that found in the Pollet last year. An examination made by Mr. de la Mare and myself showed that the gravelly mass is a kind of talus derived from the hills immediately above them, but the angular condition of the grains and other indications go to prove that the rock from which they were derived had been weathered by cold so as to consist of a friable decomposed mass. We think that after the breaking up of the rock and its disintegration by frost, it became covered by a snow or ice-cap derived from the consolidated snow, which by movement brought down the gravel and deposited it at its present position. These deposits greatly strengthen the theory that ice-caps have formed on the Island during the glacial periods.

It is worthy of remark that at L'Ancrese gravel deposits have been exposed forming irregular pockets in the masses of sand which cover the Common. These are, owing to the absence of hills, difficult to account for unless we admit the passage of an ice-sheet spreading out from the higher parts of the Island over the low lands of the Vale. In this connection I would remind you of deposits reported in previous years which it has been impossible to correlate.

All the work of the year has tended to show that our superficial deposits are older than we have thought, and that the Society will in the future have a promising field for work in placing the deposits in their places in the various glacial and interglacial periods to which they undoubtedly belong.

At Croutes Havilland the clay deposit, in which striated stones have been found, continues to yield flint implements and chippings. I have received from Mr. Morgan many undoubted artefacts some which are paleolithic and have moved with the clay, from which they have taken a polish.

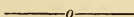
The facts that have been accumulating during the year, added to those previously known, have enabled me to elaborate a full explanation of the origin of the clays, the

implements and pebbles found therein, the gravels, the beaches and their detached stones and boulders, but the explanation must, owing to the time it would take, be left to the future.

NOTES ON THE RAINFALL AND WEATHER OF THE BAILIWICK IN 1914,

WITH SPECIAL REFERENCE TO SARK AND ALDERNEY.

BY BASIL T. ROWSWELL.



INTRODUCTORY.

THE year 1914, considered as a whole, was warm and wet. At Les Blanchés, Guernsey, its mean temperature, 51·8 deg., was 0·7 deg. above the normal of the twenty years 1894-1913, and its rainfall, 40·07 in., was 5·50 in. in excess. It was the fourth successive warm and the fifth successive wet year as shown below.

	1910.	1911.	1912.	1913.	1914.	Normal
Temperature (deg.)...	50·7	52·0	51·3	51·7	51·8	51·1
Rainfall (in.)	45·54	34·74	45·55	35·09	40·07	34·57

The peculiar see-saw fluctuation of the rainfall total since 1909, referred to in the last report, is going on, as the figures given above show. The same peculiarity is noticeable in the Sark and Alderney totals.

January was a very dry month and the year provided others, April and June in particular, but onwards from February (that month included) the year's accumulated rainfall at Les Blanchés was always in excess of the average. March and December were two very wet intervals, the latter month with 8·29 in. of rain being the second wettest *month* at this station during the last 21 years. The year provided both droughts and rain spells, details of which will be found tabulated at the end of this paper.

That the twelvemonth was a wet one is proved by this, that right back to at any rate 1894 only two wetter years have been recorded. These were 1910 and 1912, each of which years finished up with a total rainfall exceeding 45 inches.

Previous to 1910 the yearly total had always been below 39 inches at Les Blanchés, but now three times in five years (and twice very much so) the amount has run up to an aggregate exceeding 40 inches. This in itself seems to point to an

increasing rainfall in recent years, a belief there is other and more conclusive evidence to warrant. The normal annual rainfall of the 10 years 1894-1903 was 33·95 in., while that of 1904-13 was 35·18 in. On an average therefore $1\frac{1}{4}$ in. more of rain fell yearly during the second decade of years quoted than during the first. The figures for 1914, not included in these comparative statistics, afford further proof if needed of increasing (or increased) rainfall at Guernsey and doubtless of course in the other islands also.

At Sark where, thanks to Captain Henry, of La Vallée du Creux, we have an unbroken record of rainfall extending over nine years (1906-1914), the total for 1914 (35·61 in.) was 6·37 in. in excess of the normal as derived from the nine years' figures. From the Table published here it will be seen that the year is the third wettest of the series, while we may add that as regards monthly totals that for December (7·25 in.) has only been exceeded once in the nine years. This was in November, 1910, when no less than 10·15 in. was measured. Twice during the twelvemonths the daily fall passed one inch in amount, but no new record was created by either downpour.

The rainfall station at Alderney, established at the same time as that at Sark and kindly looked after by Mr. W. J. Picot, H.M.'s Procureur, of Le Huret, being very unfortunately handicapped by the loss of a month's observations in 1910, leaves us with only eight complete years to work upon. However, as calculated on the eight years' basis, the 1914 rainfall (37·11 in.) was 5·68 in. above the average. In the broken series the year stands out as the second wettest of the eight, while the December fall, 8·69 in., is the second biggest monthly total registered, November 1910 having a total to its credit of 8·79 in. As in Guernsey and Sark over one inch of rain as a daily fall was measured twice at Alderney, but here, too, no new record was established.

The islands are keeping their relative positions as regards rainfall, Guernsey having clearly the most, and Sark the least, while Alderney occupies a good intermediate place. That the same type of weather prevails all over the Bailiwick at the same time no one of course doubts—the distances separating the islands are too small to allow of differences of type. As one interesting example of this fact we may state that in *all* the islands the wettest month on record since the establishment of the gauges at Sark and Alderney in January, 1906, is November, 1910, and the second wettest December, 1914; on the other hand the driest month too, everywhere, is April, 1912. Can one wish for closer agreement?

GENERAL REMARKS.

As already stated the year (1914) opened with a dry month—in fact the driest January experienced for several years. No long interval of drought was recorded anywhere, the longest dry spell being seven days (18th-24th) at Alderney. Rain fell frequently, but in comparatively small quantity as a rule.

But it was a cold month, with January, 1908, which had a similar mean temperature, the coldest month of the name since 1897. A sharp cold snap prevailed from the 12th to the 25th. Several severe frosts occurred, the worst, on the 24th, reducing the screened thermometer to 27·3 deg. at Les Blanchés. The coldest day, the 22nd, had a mean of 31·5 deg. and the maximum rose no higher than 33·7 deg. This was a very cold day for Guernsey. A daily mean temperature below freezing point is a great rarity in the Bailiwick.

As showing how sometimes the usual order of things as regards rainfall is reversed, Alderney was the driest of the three islands in January and Sark the wettest.

A slight shock of earthquake was felt at Guernsey (and Jersey) at about 0.16 a.m. of the 8th and was noted by people living widely apart.

February began with a continuation of the dry weather, but before the end of the first week a big change to wet had set in which was to last for two full months. From February 6th to April 10th the weather was continuously unsettled and rain fell so persistently and frequently heavily during these nine weeks as to establish a surplus over the normal that was not lost even in the driest part of the summer. The foundations of the wet year were firmly laid in these excessively rainy weeks, the total measurement during which was as follows :—

	Guernsey. in.	Sark. in.	Alderney. in.
Feb. 6 to April 10	11·47	9·78	9·53

At Guernsey (Les Blanchés) February was the fourth and March the second wettest month of the name of the 21 years 1894-1914. At Sark it was the wettest February in nine years and the second wettest March; at Alderney one wetter February and March have been recorded. As regards the number of "rain days" during this nine weeks' interval, Guernsey had 59, Sark 52, and Alderney 50. In other words out of 64 consecutive days there were only 5 dry days at Guernsey, 12 at Sark, and 14 at Alderney. At Les Blanchés every day in March was a "rain day" with the exception of

the 31st, and Sark, favoured Sark, came off with three dry days only in this month against seven at Alderney. As a matter of fact Sark and Alderney again changed places in March and to such an extent (0·47 in.) that in the accumulated totals they did not recover their rightful place again until the end of the year. With the surplus over Alderney gained by Sark in January, Sark's total at the end of March was 10·70 in. against 10·02 in. at Alderney.

Alderney reported a "gale and whirlwind" with rain and hail, during the afternoon of February 12th,

An unusually heavy fall of hail accompanied by thunder and lightning occurred at Guernsey on Tuesday evening, March 10th. The shower fell between 9 and 10.30 o'clock and yielded 0·34 in. of water. More hail showers fell during the night bringing the total precipitation for the 10th up to 0·45 in., all of which came down in the form of hail.

An almost total eclipse of the moon in the early morning of March 12th was invisible in the islands because of pouring rain. The only thing observed in connection with the phenomenon was that the night grew very dark as the eclipse progressed.

Twice during this lengthy spell of unsettled weather the barometer fell to a very low level. The first occasion was on February 22nd when a drop to 28·7 in. occurred. A month later, on March 20th, another deep depression sent the mercury down to 28·6 in. The barometer had not been so low at Guernsey since December 29th, 1899, when a reading of 28·5 in. was registered at Les Blanchés. Comparatively little precipitation accompanied these two big atmospheric swirls and nothing very violent either in the way of wind was experienced. The centre of the depression of March 20th lay right over the English Channel between Weymouth and Brest at 7 o'clock on the morning of that day.

The long spell of very unsettled and wet weather which at last came to an end on Good Friday, April 10th, was immediately followed by an "absolute" drought. For 18 days, from April 11th to 28th inclusive, no rain at all fell at any of the stations and some very sunny and warm weather was experienced. For instance, for a whole week (from the 15th to the 21st) unbroken sunshine prevailed day after day and bright starlight followed at night. Daily for the whole of that glorious week over 12 hours of bright sunshine were ours to enjoy. And as regards temperature, the 21st with a maximum and mean respectively of 65·8 and 57·1 deg. was to date the warmest April day at Les Blanchés for thirteen years.

Another delightful interval of unbroken sunshine and warm weather occurred in May. The heat wave burst over us on the 14th, and two days later we experienced the first of six consecutive days of uninterrupted sunshine and equally fine starlight nights. No rain either fell in any of the islands from the 11th to the 21st, and then sunshine, heat and drought were all broken into by the passage of a sharp thunderstorm (the first of the season) during the afternoon of Friday, the 22nd. The lightning did damage at several places in the low-lying districts of Guernsey and the rainfall was much heavier in town than at St. Martin's, 0·49 in. being measured at the Guille-Allès Library against 0·28 in. only at Les Blanchés. At Sark the thunderstorm rain was slight, viz., 0·03 in.; at Alderney it was 0·19 in.

The cooling effect of the passage of the thunderstorm was unusually well marked, and from being unpleasantly warm the weather became unpleasantly cold. From the high daily mean at Les Blanchés of 59·9 deg. on the 20th a drop occurred to 47·7 deg. on the 26th, while the fall in the maximum reading was from 70·0 deg. to 53·0 deg. To the end of the month the weather continued cool, but very little more rain fell after that of the thunderstorm.

At Sark the driest month of the year was May; at Alderney and Guernsey it was June. Actually, as the Table shows, there is very little difference in the amounts for the two months at Sark and Alderney. At Guernsey (Les Blanchés) the difference is still smaller, the totals being: May 0·95 in., June 0·92 in.

June was the last of three consecutive dry months. That April, May and June—all three—suffered very considerably from drought will be clear when it is stated that whereas the normal rainfall at Les Blanchés for this quarter of the year is 6·20 in. the actual was 3·08 in. only. It was just at this time—June—that the so far easily maintained surplus in the year's rainfall was threatened with extinction, for the month went out with an excess over the average for the six months of 0·41 in. against 3·53 in. at the end of March. These are the Les Blanchés figures. July, however, and the two following months being each in every sense of the word wet as regards total precipitation, the surplus grew again to big proportions.

The tail end of a thunderstorm passed over Alderney at about 11 p.m. on June 8th. The full strength of the storm is reported to have been spent in the Channel north of the island where, in the moonlight, much rain was observed to be falling.

Some rain fell at Braye, but very little in St. Anne's and on the Blayes, and none at Mr. Picot's station at Le Huret. At Guernsey that night was noted the occurrence towards midnight of distant thunder and lightning in the far east.

On the last day of June and the first of July the islands were involved in a great heat blaze. Nothing like it had been experienced since the extraordinary outburst of heat on September 8th, 1911, when a shade maximum temperature of 88·6 deg. and a mean for the day of 74·6 deg. were registered at Les Blanchés. This time the figures were as follows:—

Date.	Max. deg.	Min. deg.	Mean. deg.	Normal. deg.	+ deg.
June 30 (Tues.).....	80·1	... 54·9	67·3	... 58·0	9·3
July 1 (Wed.)	82·9	... 63·9	70·2	... 58·1	12·1

July 1st was the hottest day of the 1914 summer, but the month as a whole was cold and unsettled. On one day only (the 10th) did the sun shine without break from morning to night, while on the other hand three days (the 2nd, 5th and 31st) were sunless. After the 22nd the weather became very cool for the time of year.

On the evening of Tuesday, July 7th, the day of the memorable Victor Hugo Fêtes which included the unveiling of the statue of the poet in Candie Grounds, rain and fog prevailed in sufficient quantity to necessitate the cancelling of the water carnival, and the fireworks display was spoilt by the wet.

A thunderstorm visited the Bailiwick during the early hours of Sunday, July 12th. At Guernsey, where it prevailed from 1 to 5 a.m., it was of quite moderate intensity both as regards thunder and rainfall. In the other islands it was decidedly more severe in every particular. The *Weekly Star* of the 18th thus described the storm as experienced at Sark:—

“A rather heavy thunderstorm broke over the island on Saturday night. It lasted for some hours. The peals of thunder were loud and long and the lightning very vivid, and was accompanied by torrential rain.”

In the *Evening Press* of the 16th the following paragraph relating to Alderney, appeared :

“The thunderstorm of early Sunday morning was one of the fiercest experienced within living memory on the island. There were fortunately no accidents, save the disablement of telegraph poles in the Très-Vaux Valley, and the temporary stoppage of the Post Office telegraphic instruments. . . . The majority of chefs-de-famille appear by common consent to have got up to attend to rain pipes and drain gutters. Those who did not experienced domestic consequences they are not likely to forget.”

The rainfall measured at the three stations after the storm was : Guernsey 0·10 in. ; Sark 0·60 in. ; Alderney 0·73 in. The week ending Saturday, July 11th, and which includes the above thunderstorm rain, was one of unusually variable rainfall over the Bailiwick as shown by the totals given below.

Guernsey 0·44 in. ; Sark 0·85 in. ; Alderney 1·34 in.

To Captain Henry and to Sark belong the honour of recording the first inch rainfall of the year ! This fell on Sunday, July 19th, and was not a thunderstorm downpour. Alderney came off best on this occasion. For how many hours the rain poured down at Sark and Alderney we do not know, but at Guernsey the fall lasted six hours—from 3 to 9 p.m.—during most of which time the wind was strong and squally from S.E. The measurements were :

Guernsey (Les Blanchés), 0·83 in. ; Sark, 1·04 in. ; Alderney, 0·58 in.

A slight thunderstorm passed over Guernsey and Sark during the afternoon of July 22nd and gave 0·28 in. of rain in both islands. At Alderney that day no less than 0·70 in. fell, but we cannot say whether in association with an electrical disturbance or not. Probably it was.

In July Guernsey was by far the driest of the three islands where a total rainfall of 2·48 in. was measured at Les Blanchés against 3·12 in. at Sark and 3·18 in. at Alderney—a curious reversal of the usual conditions.

August 12th and 13th, two hot days, the latter especially so with max. and mean temperature of 79·0 and 70·0 deg. respectively, were followed on the 14th by a severe thunderstorm in all the islands. At Guernsey where it prevailed from 5 to 9 p.m. rain fell very heavily, as much as 1·54 in. being measured at Les Blanchés and 1·84 in. at the Guille-Allès Library. Houses on the Fort Road were struck by the electric fluid and serious damage by flooding was done in several places. The storm gave 0·91 in. of rain at Sark and 0·97 in. at Alderney and, as usually happens, very effectively cooled the air. A paragraph in the *Evening Press* of the 17th thus described the disturbance at Alderney :

“A severe thunderstorm broke over the island from the south west on Friday evening, and lasted to near midnight. Much rain fell, the lightning was almost continuous, and the hill-side roads were in many places guttered and denuded of siftings. An operator at the Essex Hill telephone was paralysed. The full strength of the storm spent itself in the Channel.”

Favourable weather prevailed at Guernsey for observation of the partial eclipse of the sun on Friday, August 21st. A sensible reduction of light was noticeable at the

period of greatest phase (0.11 p.m.) and the shade temperature dropped several degrees, though exactly how much of the latter effect was due to the passage of some detached clouds is not quite certain. Rather less than half of the sun's disc was obscured here.

August was the hottest month of the year. Its mean temperature as worked out from the Les Blanchés observations viz. 61.3 deg., shows it to have been the warmest month since September 1911, which had a mean of 62.1 deg. It was a wet month also, but only as regards *total* precipitation. Really, if we exclude the thunderstorm rain on the 14th and a fairly heavy showery interval which occurred everywhere on the following day, very little rain fell from the 7th to the 24th.

In our weather notes, under the date of September 4th, occurs the following :

“To-night a thunderstorm is passing northwards west of the island. Lightning has been seen since 8 and thunder heard since 9.30 o'clock. Both are still (11 o'clock) occurring, but the storm is distant and no rain has so far fallen at Les Blanchés.”

And in the next day's notes this additional information appears :

“The storm last night died away soon after midnight, no rain having fallen here (Les Blanchés), but quite a downpour was experienced at St. Peter's-in-the-Wood. Very heavy rain fell in town towards 5 a.m., 0.26 in. at the Guille-Allès Library and 0.29 in. in Mr. Saumarez Le Cocq's garden at Clifton. At this station, where lightning was seen, 0.01 in. only fell—a mere sprinkling.”

Alderney would seem to have come pretty much under the influence of this disturbance, for Mr. Picot reported “heavy thunderstorm in the west during night.” And the returns showed a rainfall of over half-an-inch (0.56 in.) to have come down in association with it.

But the worst electrical storm of the season, at any rate as far as Guernsey was concerned, occurred on Tuesday, September 8th. Let us quote from the weather diary at Les Blanchés :

“Last evening's distant thunder and lightning developed into a sudden and extremely severe, but fortunately short-lived, thunderstorm which burst over the island at 0.30 a.m. to-day [the 8th] accompanied by a gale of wind and much rain. By 1 o'clock the storm was practically over—dying down in the W.N.W.

The disturbance approached the island from the southward with great rapidity—its rate of progression for a thunderstorm was quite unusual—and for a few minutes about 0.45 o'clock was alarming in its severity. At this hour the lightning was intensely vivid and incessant and with the violent thunderbursts showed the storm to be in the immediate neighbourhood.

Rain fell in torrents for a little while and to add to the wildness of the moment a gale, as sudden in its advent as the storm itself, played

sad havoc with the thickly foliaged trees. Considerable damage was done to houses and greenhouses everywhere, but curiously enough by the wind in most cases, not by the electrical fluid. The Town Church roof was damaged in several places by the wind.

The gale, similarly to the lightning and thunder, soon abated in severity. Rain continued to fall for some time, but in the half-hour, from 0·30 to 1 o'clock, 0·35 in. fell at Les Blanchés."

The total rainfall in connection with the storm was 0·41 in. at Les Blanchés and 0·63 in. at the Guille-Allès Library. At Sark Capt. Henry measured 0·27 in., while at Alderney where Mr. Picot reported: "Heavy thunderstorm off the Casquets," the amount was only 0·11 in.

A very fine and perfect rainbow, with faint but also perfect secondary bow, was visible at Guernsey for some time at 6 p.m. on the day of the great storm. That day's sunset too was gorgeous, wild, magnificent; for brilliancy and variety of colouring we have never seen its better.

A very heavy cyclonic rain during the early hours of September 17th gave 1·17 in. at Les Blanchés and 1·31 in. at the Guille-Allès Library. At Sark the depression gave 0·72 in. and at Alderney 0·61 in.

No rain at all fell in any of the islands from September 20th to October 11th. This drought, of 22 days' duration, was the year's longest spell of absolutely dry weather. Very little of fine weather was experienced afterwards, but on the contrary frequent and much rain for days and days together. For instance November 5th was the last of 16 consecutive "rain days" at Sark, of 17 at Alderney, and of 18 at Guernsey, and the amounts measured totalled respectively 2·52, 3·32 and 3·79 in. On the last day of the month another big cyclonic rain deluged the islands. At Alderney it proved to be the year's second heaviest fall and of it Mr. Picot wrote: "Exceptional rain all evening, and squally." The measurements were:—

Guernsey (Les Blanchés) 0·92 in., Sark 0·85 in., Alderney 1·25 in.

On Saturday, November 7th, the infrequent phenomenon of a Transit of Mercury occurred. The time, 9·57 a.m. to 2·9 p.m., was extremely favourable for observation. As regards weather very fair conditions prevailed during the first hour and a half or so, but not afterwards. As however optical help was necessary to show the planet projected on the sun's disc no special interest in the event was aroused here.

About the excessive wetness of December something has already been said in the Introductory. Dry days were few

and far between—at Les Blanchés there was one only, the 3rd—and in the end the month turned out, not merely the wettest December on record at the three stations—it was that—but the second wettest of 252 months at Guernsey and of 108 at both Sark and Alderney. The difference from the normal at Guernsey, where the total fall reached 8·29 in., was + 4·10 in.

A wet winter month is generally a warm month also and December proved no exception to the rule. Several hoar frosts were noted at Les Blanchés, but on no day did the screen (air) temperature drop below 34·8 deg. Barometrical pressure was very unsteady throughout the month owing to the passage of an unbroken succession of depressions of varying intensity. One of these cyclonic swirls on the 9th gave both Sark and Alderney their wettest day of the year, Captain Henry's measurement at Sark being 1·18 in. and Mr. Picot's at Alderney 1·36 in. At Guernsey that day's rainfall was 0·96 in. at Les Blanchés and 1·22 in. at the Guille-Allès Library. Another big Atlantic "low" sent our barometer down to the very low level of 28·7 in. on the 13th.

Hail showers were of frequent occurrence in December and several violent gales occurred. At Guernsey, for instance, a whole gale raged during the mid-day hours on the 4th, and at Alderney on the 28th there was "a fierce gale, hurricane 4 p.m., hail and rain."

Alderney was very decidedly the wettest of the three stations in December; its total, 8·69 in. was 1·44 in. above the Sark total and 0·40 in. above that at Guernsey. The effect on the springs of the excessive rainfall was very marked. At Les Blanchés, Guernsey, the first indications of a rise having begun was given on December 7th, and by the end of the month the water level in the well had risen 28 inches. Underground water was late in flowing—the summer ebb continued until a later date than usual—but once the turn in the tide occurred the rise was a rapid one. In the two months ended January 31st (1915) the rise at Les Blanchés amounted to no less than 5 feet 9 inches.

In conclusion hearty thanks are tendered to Captain Henry and Mr. Picot for their continued and much appreciated help, now extending over nine years, in measuring and recording the rainfall in Sark and Alderney respectively, thus making available statistics which are at once both interesting and valuable and which will become increasingly so as time goes on.

ABSOLUTE DROUGHTS IN 1914.

An Absolute Drought, as defined in *British Rainfall*, is "a period of *more than* 14 consecutive days, no one of which is a rain day."

SARK.

April 11 to 28	...	...	...	...	...	= 18 days.
Sept. 20 to Oct. 11	...	...	...	...	...	= 22 "

ALDERNEY.

April 11 to 28	...	...	...	...	...	= 18 days.
Sept. 20 to Oct. 11	...	...	...	...	...	= 22 "

GUERNSEY (LES BLANCHES).

April 11 to 28	..	...	...	...	...	= 18 days.
Sept. 20 to Oct. 11	...	...	...	...	...	= 22 "

PARTIAL DROUGHTS IN 1914.

A Partial Drought, as defined in *British Rainfall*, is "a period of *more than* 28 consecutive days, the mean rainfall of which does not exceed .01 in. per day."

SARK.

May 5 to June 8 = 35 days. Rainfall 0.35 in. on 7 days.

ALDERNEY.

May 7 to June 9 = 34 days. Rainfall 0.34 in. on 4 days.

GUERNSEY (LES BLANCHES).

No Partial Drought was registered.

RAIN SPELLS IN 1914.

A Rain Spell, as defined in *British Rainfall*, is "a period of *more than* 14 consecutive days, every one of which is a rain day."

SARK.

Feb. 28 to Mar. 15	= 16 days.	Total rainfall,	2.39 in.
Oct. 21 to Nov. 5	= 16 "	" "	2.52 in.

ALDERNEY.

Feb. 6 to 23	... .. = 18 days.	Total rainfall,	4.31 in.
Feb. 28 to Mar. 15	= 16 "	" "	2.10 in.
Oct. 20 to Nov. 5	... = 17 "	" "	3.32 in.
Dec. 4 to 22	... .. = 19 "	" "	6.74 in.

GUERNSEY (LES BLANCHES).

Feb. 28 to Mar. 30	= 31 days.	Total rainfall,	5.71 in.
Oct. 19 to Nov. 5	... = 18 "	" "	3.79 in.
Dec. 4 to 31	... .. = 28 "	" "	8.16 in.

SARK AND ALDERNEY RAINFALL, 1914.

Months.	Monthly Totals.		Rain Days.		Heaviest Daily Rainfall.		Falls of 0·50 in. and above.	
	Sark.	Alderney.	Sark.	Alderney.	Sark.	Alderney.	Sark.	Alderney.
	in.	in.			in.	in.		
January	1·58	1·38	16	12	0·61 5th	0·50 5th	1	1
February	4·41	4·40	18	20	0·85 8th	0·89 8th	2	1
March	4·71	4·24	28	24	0·59 11th	0·40 20th	1	—
April	0·91	1·17	8	8	0·29 4th	0·32 4th	—	—
May	0·62	0·70	8	5	0·19 3rd	0·21 3rd	—	—
June	0·73	0·58	8	6	0·17 14th & 20th	0·16 23rd	—	—
July	3·12	3·18	16	13	1·04 19th	0·73 11th	2	3
August	3·07	2·12	12	10	0·91 14th	0·97 14th	1	1
September	2·83	3·47	12	12	0·72 16th	0·84 9th	2	4
October	3·05	3·50	17	15	0·60 12th	0·62 28th	2	1
November	3·33	3·68	18	19	0·85 30th	1·25 30th	1	1
December	7·25	8·69	26	28	1·18 9th	1·36 9th	3	6
The Year	35·61	37·11	187	172			15	18

Totals and Heaviest Rainfall for the Nine Years, 1906-1914.

1906.....	26·07	28·63	161	168	1·16 June 28th	0·85 Nov. 8th	10	15
1907.....	26·15	28·84	178	188	1·11 Nov. 25th	1·15 Oct. 1st	6	7
1908.....	18·51	24·02	155	150	0·62 Feb. 16th	1·04 Apl. 24th	1	6
1909.....	26·13	32·99	146	157	1·38 June 3rd	1·55 Nov. 15th	14	15
1910.....	39·04	?	203	?	1·84 Oct. 13th	?	14	?
1911.....	26·71	29·12	152	158	1·40 Oct. 27th	1·21 Nov. 11th	10	14
1912.....	37·87	39·04	197	197	1·35 Aug. 12th	1·30 Aug. 12th	22	22
1913.....	27·09	31·66	173	172	0·95 Dec. 5th	2·00 Sept. 17th	10	11
1914.....	35·61	37·11	187	172	1·18 Dec. 9th	1·36 Dec. 9th	15	18
Averages ..	29·24	31·34	172·4	170·2			11·3	13·4

NOTE.—The Sark averages are based on nine and the Alderney on eight years' observations.

Where not otherwise definitely named, the Station implied in the references to Guernsey in the preceding paper is that at Les Blanchés, St. Martin's, which was established in January, 1894.

NOTES ON SOME OLD DOCUMENTS.

BY LT.-COL. T. W. M. DE GUÉRIN.

THE following documents form part of a collection of manuscripts formerly belonging to Sir Edgar MacCulloch, our late esteemed Bailiff, who left them at his death to the Royal Court. Sir Edgar MacCulloch was a devoted student of the history of our Island and its institutions, and in the course of his researches he collected a large number of original manuscripts, dating from the 14th century onwards, and also copied numerous Charters, Royal Letters, and other historical documents which are to be found at the Record Office, London, and in other public and private collections. On the death of the late Mr. William Métivier he became possessed of all the manuscripts belonging to Mr. John Métivier and his brother Mr. George Métivier, including the original manuscript of the latter's "Dictionnaire Franco-Normand."

The collection contains many interesting original manuscripts including a large number of old Guernsey "Lettres sous sceau"; several "Livres de Perchage" of various Guernsey fiefs; an interesting note book, written by George Fashion, Seigneur d'Anneville, early in the 17th century; a contemporary account of de Rullecourt's attack on Jersey, 1781; a valuable index to the Baptismal Registers of St. Peter-Port; and number of bundles of original letters, from the Andros collection, written by Sir Henry de Vic, Deau de Sausmarez, Amice de Carteret and other prominent Guernseymen, in the 17th and early 18th centuries. The copies of original documents include those of the Girard and Le Roy manuscripts; letters of Governors and other Guernsey officials from 1609 to 1683; an interesting account of Elizabeth College; Lord Hatton's "Remarks on the Constitution of Guernsey," temp. Charles II.; copies of Royal Letters and Charters referring to the Channel Islands in Close, Patent and Gascon Rolls at Record Office; an important critical reconstruction of the text of the Extente of

Guernsey, 1331, by Mr. John Métivier, compiled from the original Latin text at the Record Office, supplemented by a digest of the numerous French translations extant in Guernsey; also the manuscripts of several original articles written by Sir Edgar MacCulloch on the history of St. Peter-Port, &c., &c.

Few people are aware of the amount of material for the history of Guernsey that is to be found at the Greffe and in the Library of the Royal Court. In the Greffe are the collections of manuscripts of Bailiffs Samuel Bonamy, William Le Marchant, and Sir Peter de Havilland; the whole of the series of Rolls published by the Master of the Rolls early in the last century; and about 30 volumes of manuscripts copied by Mr. John Métivier, which include copies of all the charters concerning the Channel Islands to be found in the Cartularies of various Norman abbeys, at St. Lo and Avranches; those referring to the priory of Saint Michel du Valle fill two volumes. In the Library of the Royal Court is a "Calendar of State Papers, 1274-1779," compiled from various historical documents in the Record Office and the British Museum, by Mr. Clarence Hopper for Bailiff Sir Peter Stafford Carey; 19 volumes of historical documents, 1527 to 1688, copied by Mr. A. Isemonger from the Records of the Greffe and other sources, 4 volumes of Letters and Charters from various Rolls in the Record Office, 1200-1500, &c., &c.

LETTER OF MICHEL DE L'HOPITAL, CLERC DES
ARBALISTRIERS DU ROI, 9TH JANUARY, 1338-9.

This is an original letter of Michel de l'Hôpital, Clerc des Arbalistriers du Roi, dated the 9th January, 1338-9, addressed to Thomas Fouque, Garde du Clos des Galées, at Rouen, reciting certain Letters Patent of Philippe de Valois, King of France, dated the 3rd October, 1338, ordering de l'Hôpital to supply Robert Bertran, Marshal of France, to whom the king had given the island of Guernsey and its adjacent islands, or his officers, with such cross-bows and quarrels as may be required for the defence of the said islands. De l'Hôpital, in compliance with the king's order, requests the Garde du Clos des Galées to deliver to Jehan Lallement and Henri de Heugueville, sergeants-at-arms of the Marshal Bertran, whatever they may require from the Arsenal at Harfleur in accordance with the king's letter.

This interesting document was purchased some years ago by Mr. Edward Dobrée, of Udney Hall, Teddington, from a

dealer in old books and manuscripts in London, and was given by him to the late Sir Edgar MacCulloch, who gave it with his library and other historical manuscripts to the Royal Court. We have thus now in the Greffe an interesting record of an important episode in our history in the 14th century, the period of the French occupation of Guernsey. Castle Cornet, it will be remembered, was captured by the famous French Admiral Behuchet, on the 13th September, 1338, consequently the above-mentioned letter of Philippe de Valois to de l'Hôpital must have been written very shortly after news of this event had reached the king. The French held Guernsey till the 26th October, 1340, when they were driven out of the island by Walter de Weston and retreated into Castle Cornet, which remained in their possession until August, 1345.

The following note by Sir Edgar MacCulloch is written on the wrapper of the document.

“Lettre de François de l'Hôpital, cleric des arbalistriers du Roi en date du 9e janvier 1338/9 dans laquelle il donne copie d'un ordre du Roi Philippe Auguste (*sic*) (de Valois) de France, en date du 3 octobre précédent, à lui adressé et livré à Robert Biron (*sic*) (Bertran) chevalier mareschal de France ou a son lieutenant ce que lui faudra d'arbalastes et de carreaux pour la défense des isles de Guernesieu et des aultres isles prochaines.

Cette pièce m'a été donnée par Edouard Dobrée, d'Udney Hall, Teddington, qui l'avait achetée d'un bouquiniste à Londres. Elle semble prouver que les Français étaient en possession des îles à cette date, ou qu'ils se croyaient sur le point de les conquérir.”

EDGAR MACCULLOCH.”

I.

Francois cleric des arbalestriers du roi, monseigneur a Thomas Fouques garde du clos des galees du dit seigneur a Roen salut. J'ai receu les lettres du dit monseigneur le roi contenant ceste forme—Philippe par la grace de Dieu Roy de France. A mon ame François de lospital cleric de nos arbalestriers ou a son lieutenan salut. Nous te mandons que a nostre ame et feal chevalier et conseiller Robert Bertran Mareschal de France. ou a son mandement certain tu baillies et delivres de nostre artillerie ce que necessaire li sera, et dont il te requerra tant arbalestres que carreaux pour la garde et deffense des Illes de Guernesieu et des autres Illes prochaines que nous lui avons donnees en prennant de li lettres de Recognoissance sous son seel tu lui bailleras par lesquelles nous voulons que de tant soies deschargie de notre artillerie Donn à Pons Sainte

Meyence† le tiers jours doctobre l'an de grace mcccxxxviii. Par la vertu desquelles lettres je vous mand de par le Roi et prie de par moi que tout ce que Jehan Lallement ou Henri de Heugueville sergens darmes du dit seigneur vous demanderont ou lun deulx pour le dit monseigneur le mareschal, vous leur bailliez et delivrez hastivement et sanz delai selonc le contenu es dictes lettres du Roy notre dit seigneur. Et ce faites en tele maniere que il ny ait point de deffaut et que nous nen puissions avoir blasme, en prennant lettres de recognoissance des diz Jehan et Henri ou lun deulx de ce que baillie leur aurez par les quelles je vous ferai allouer en voz comptes ce que ainsi leur aurez baillie. Donn a Harefleur sous mon seel le IXe jour de janvier lan myl ccc trente huit.

Fragment of seal in red wax
bearing a shield with arms—a cock
within a gothic border. No counter seal.

PETITION OF THOMAS DE APPELBY, 1374-75.

This petition of Thomas de Appelby, King's Receiver of the Channel Islands, is now in the Cottonian MSS. (Titus B. VIII. art. 10, p. 68). It gives a curious insight into the government of our islands during the closing years of the reign of Edward III., one of the most troubled periods of our history. The spring of 1372 had seen the invasion of Guernsey by Evan de Galles, and the following year the raiding of all the Channel Islands by the forces of du Guesclin. Edward III. also at this time decided to make an alteration in the constitution of our government, and abandoning the system of one warden or governor for all the islands, which had been in force for many years, he appointed on the 20th November, 1373, William de Asthorp and Edmund Rose, respectively, Wardens of Guernsey and Jersey, probably thinking that the defence of the islands would be more thoroughly secured by this means. In consequence of the sequestration to the crown of the lands and revenues of the alien abbeys, on account of the war, the crown revenue was greatly increased, so much so that the king thought it advisable to appoint a comptroller to supervise the expenditure of the Wardens and to pass the accounts of the King's Receiver. With curious inconsistency, considering he had just divided the governorship of the islands, the king, on the 1st February, 1374, appointed John de Saint Martin, Bailiff of Jersey, and Thomas de Appelby, respectively, comptroller and receiver of all the Channel Islands. De Saint Martin

† Note.—Pont Sainte Maxence, Oise.

lived in Jersey, and de Appelby in Guernsey, so, as might be expected, friction soon occurred. Then, to further complicate the situation, the king ordered de Appelby not to pay Edmund Rose any money for the midsummer quarter until he received further orders from the Council. This was the beginning of difficulties between Rose and the Receiver. As may be imagined Rose was furious, as he was unable to pay his followers, the garrison of Mont Orgueil Castle. At last, five weeks after midsummer, Thomas de Appelby sent his deputy over to Jersey to pay him one half of the revenue of that island. This order the deputy carried out, but the next day he was arrested in the Governor's presence and imprisoned in the castle till Michaelmas following, when he only obtained his release by paying a ransom of over 600 francs.

Shortly afterwards Thomas de Appelby received orders from the Council to go immediately in person to Jersey to examine into the number of followers and soldiers kept by Edmund Rose, and to pay him reasonable wages for them. The worthy Thomas tells us that "il se douta grauntment de aprocher devers le dit Esmond a cause de graunt force de ses gentz et lours menaces," so for his protection he took with him the bailiff and jurats of Jersey. When they arrived in the presence of Edmund Rose, Thomas de Appelby demanded whether he intended to obey the orders of the Council and order a muster of his men, for whom he was claiming pay, or not. To this the Governor replied that he would take counsel and advice on the point and would give him his reply in two or three days. De Appelby and the bailiff and jurats then retired, but they had hardly reached half a bow's shot length from the castle gate, when Nicholas Lowier, a personal servant of the Governor, attacked the Receiver, and stabbed him in the neck with a dagger, whilst the men on the walls of the castle shouted for joy at the discomforture of the unfortunate de Appelby. We may imagine that after this outrage the Receiver and his companions returned to St. Helier's in great haste. The Receiver tells us nothing of the Governor's reply, so it seems evident that he returned to Guernsey without waiting for it.

Edmund Rose, finding that he could get no money out of de Appleby, proceeded to seize a quantity of canvas, worth between three to four hundred francs, belonging to some Jersey merchants, who had asked his permission to ship it to St. Malo, pretending that it was forfeited to the king. Later Thomas de Appelby sent his deputy to Jersey on his own

affairs as Receiver, but he was spied upon and tracked by the soldiers of the castle, who would have taken him prisoner had he not been hidden by some of the good people of the island and so escaped out of their hands. He finishes his petition to the Council with a prayer for remedy, and a statement of his own diligence in the king's affairs; how, in the preceding year under William de Asthorp, the revenue of Guernsey had only amounted to 770 francs, but through his own good management this year it had increased to 1075 francs, and if the other officers of the king had shown a like diligence it would have been even more.

The petition is undated, but it was evidently written at the end of 1374, or early 1375, for we find mention of one of the incidents, his visit to Jersey when he was wounded by Nicholas Lowier, in his accounts for these years, now in the Record Office, London, of expenses and disbursements made in the island of Jersey, by view and consent of Johan de Saint Martin, comptroller . . . since 2nd April, 1374 (1). Among various other items is one which runs as follows:—

“Item paie pour le louage d'un batel tout arrage (sic) quant Thomelyn Appelby recevoir et approvour des isles fut naffre iii fr.”

II.

COTTON MANUSCRIPTS, TITUS B VIII., ART. 10, p. 68.

D. vitaille-
ment et
reparac-
cion du
chastell
Cornet.

Pleise au Conseil Nostre Seigneur le Roi d'ordener pur l'estat des isles cest assavoir.

Premier comment le chastell Cornet et la tour de Beauregard devient estre repares et vitailles les queux feurent de tote desvitailles et grauntz reparacions a faire apres le departir de Monsieur William de Asthorp car totez les revenues du paies sont assetz pouhes à purfournir le paiement de ⁱⁱⁱⁱ livres a Mons. Thomas Beuchammp.

D. Armu-
piment de
arest.

Item pur ce que le dit chastell et toure feurent lesses de par le dict Monsr. William Asthorp de tote devitailles et grauntz reparacions a faire les biens du dit Mons. William a la value de cc ou ccc frauns feurent arestes a cause pur avoir satisfaccion pur le Roi des ditz vitailles les queux biens sont levez par Esteven Marchaunt non obstant ascun droict ou arest du roi et les detenant devers lui de quoi pleise au dit conseil d'ordoner medes.

D. Deniers
prises
encontre
lestat real.

Item le dit Esteven Marchaunt ad resceu diverses parcelles a la sume de XLIII frauns de la terme de seinct Johan derrein passe et les detenant devers lui non obstant le brief de nostre seigneur le Roi especifiaunt que nul homme rescent nul denier du dict terme forsquez le recevoir de nostre dit seigneur le roi.

(1) Record Office, Exchequer Accounts, Queen's Remembrance, 89/29.

Item soit fait un brief direct au Priour du Vale qil face sa paiement es isles au Resceivour de nostre seignour le roi.

Item soit fait lettre de privei scel a Ileford pur deliverer vynt estandars des armes de nostre seignour le roi pur les fortresses des isles.

Item touchant Jeresey pur ceo qil estoit commande a Thomas de Appelby que il ne fist nul paiement de la terme de seinct Johan a nully tanquez le conseil de nostre seignour le roi en avoit ordene comment et en quele manere. Et sur ceo le dit terme de seinct Johan venu Esmond Rose se mova forcement manassaunt par ses gentz a cause qil ne poiait estre paie au premier du dit terme. Et puis apres le dit Thomas consideraunt que le dit Esmond avoit soustenu la charge de sa garde tanqua cynk semeyns apres le seinct Johan le dict Thomas fist ordenez son depute a dit Esmond pur lui paier la moite des revenues de Jereseye a cause qil avoit soustenu la moite de la charge de sa garde lequel mon depute au primer jour fust accepte bien et peisiblement et lendemayn fust pris le dit depute par les gentz du dit Esmond et en sa presence et mys en chastell de Jeresey au graunt garde et ove grauntz manaces et lui firent restenir en le dit chastell entierment tote la grosse du dit terme et illoques paier au dit Esmond tanqua la somme de VI frauns et plus.

Coment le
depute
Thom: de
Appelby
fust mys en
chastell.

Et puis apres fust venu Peres Guyon portant l'ordinance du dit conseil commaundant au dit Thomas d'aler tanq en Jeresey en sa propre persone pur surveer la retenu et les gagers du dit Esmond paiant a lui gages resonables sur quele mandement acomplir le dit Thomas se douta grauntement de aprocher devers le dit Esmond a cause de graunt force de ses gentz et lours manaces nepur quaunt pur acomplir le mandement du roi le dit Thomas sen ala devers le dit Esmond prennant ovesque lui le baillif et jures de Jereseye pur eschuer les perils et manaces qil avoit sovent faits oyer. Dount a la venu du dit Thomas devers le dit Esmond le dit Thomas lui requist se il voleit obeir a les ordinaances du conseil de nostre seignour le roi et faire monstre on de ses gentz pur les queux il voleit prendre gages sicome il estoit contenuz es lettres de nostre dit seigneur le roi monstres adonques devant le dit Esmond baillif et jures a quele chose le dit Esmond respondit qil se avisast et ewe avis par II jours ou III il devrait repondre au dit Thomas. Et sur ceo le dit Thomas baillif et jures assemblement departrent hors du dit chastell et eux eloynes l'espace de demy trete d'une arke vynt un Nicholas Lowier servant familier du dit Esmond ove gayte apense et celement arme et ferist le dit Thomas parmy lespaule outre le gorge par un glayve que le dit Nicholas avoit en sa main tout droit en la presence dez ditz baillif et jures et la vewe de ceux du chastell. Dount ceux du chastel huerent

Et coment
Tho: de
Appelby
fust naufré
pur faire le
mandement
du Roi.

comme pur goie quant ils virent le dit Thomas estre feru. De quele trespas fait si hautement encontre l'estat real pleise au dit conseil mettre tiel remede et si convenable que l'estat du roi soit garde et autres nul puissent prendre esaumples en temps a venir car autrement nul ne oserast d'entremeller de negoces du roi en temps a venir.

Item pleise au dit conseil pur faire declaracion de cavanas pris pur Esmond Rose de bones gentz de Jereseye a la valeu de iii^c ou iiii^c frauns lequele cavenas fust prise depar le dit Esmond des dites bones gentz de Jereseye quaut ils quererant leur saufe conduit a seinct Malow ou s'il doit appartenir a nostre seigneur le roi comme forfacture ou as dites bones gentz comme lour chatel propre.

Item le dit Thomas Appelby envoya son depute a Jeresey a ceste senct Michel derrein passe pour avoir ministre illoques pur le roi lequel depute fuet serche et espie depar les gagers du chastell les queux gagers s'ils lui puissent avoir prise lui voudroient avoir mys en prisone dount par les bones gentz du paies fut garni et garde et eschapta Des quels mestries ensi encontre l'estat real si apertement Pleise au dit conseil pur Dieu y mettre remede.

Item note que les fermes de Gernesey de l'autre anee c'est assavoir de lanee de monsieur William de Asthorp s'amontent a vii^c LXX frauns XII sols Et note que les fermes et autres approvements cest an present depar Thomas de Appelby s'amontent a m^e LXXV frauns VII sols VI deniers Et encore dieuse avant sera plus si autres ministres du roi y voillent mettre bone diligence.

Item note tote l'entent de Gernesey s'amontera ceste an en totes choses pur la bone approvement comme apert en parcelles a $\text{ii}^{\text{mil}} \text{vi}^c \text{xxx}^{\text{iii}}$ frauns.

(No date and only endorsed)

Gernsey.

JUDGMENT OF THE ROYAL COURT OF GUERNSEY, 10TH MARCH, 1433/4.

This interesting document contains the earliest record of legislation in Guernsey that has come down to us. The case before the Royal Court was an action by John Falla and other inhabitants of the Clos du Valle, against Dom Thomas Regnault, styling himself procureur and attorney of the Abbot of Mont Saint Michel, for having sued them before the Dean in the Ecclesiastical Court, for non-performance of certain feudal usages, contrary to a law passed five years previously, in the time of Bailiff James Cocquerel. The said law, or "constitution et etablissement general," as it is called, having been duly passed, "ordonney et establis," by the bailiff and

D. Cav-
anas prise
par
Esmond
Rose.

Coment les
gagers du
chastel de
Jereseye
autrefoitz
voudroient
avoir fait
male as
ministre
du Roi.

Les
Approuve-
mentz.

jurats of the Court of the Lord of the Isles, the Duke of Bedford, with the counsel and "bonne deliberacion" of "les gentilhommes"—the tenants in chief owing suit of court—and the "bonne communaultey de l'isle," and in accordance with Letters Patent of the king to the same effect. Then follows the gist of the law, which is styled "le constitution et establissement," to the effect that no "creature ou homme privilegie d'eglise" under pain of his body or his goods, should sue any lay inhabitant of the island, in the Ecclesiastical Court, before the Dean, for tithes or any feudal dues, of which the cognizance belonged to the King's Court. Further we are told that the said law and authority granted by the said Letters Patent of the king, has been promulgated "par cry et ban" in the Royal Court, and also in the Market Place, according to custom. It is interesting to note on this last point, that it is still the custom in Jersey to read publically in the centre of the square in front of the Court House, all Orders in Council sanctioning new laws. This is evidently a survival of a custom common to both islands.

Sir Edgar MacCulloch was of the opinion that "les gentilshommes" and "la bonne communaultey" taking part in the making of the "constitution et establissement" "represented without doubt the States." We are however told in an Order in Council of Queen Elizabeth, 27th October, 1583, that no Tiers Etats existed in Guernsey at that date, the island being governed by the "Governor, bailiff and jurats, after they have ascertained the sense of the generality of the people through the constables"; hence it might be more correctly described as an act of legislation by the general assembly of the people of the island. The reference to the Letters Patent of the king shows that it was not merely an Ordonnance of the Court of Chief Pleas, but a law sanctioned by the king.

If we look carefully at the document we notice first that the law was "ordonney et establis" by the bailiff and jurats, with the counsel and mature deliberation of the chief tenants and the "bonne communaultey de l'isle." This, I think, shows that our legislative assembly in 1429 closely resembled that of Alderney at the present day, for it is evident that as the law was "ordonney et establis" by the bailiff and jurats, they alone possessed the executive power of voting, and that the seigneurs and the commonalty of the island possessed but a consultative and deliberative voice. It must also be noted that none of the rectors are mentioned as forming part of the assembly, but the church would have had a voice in legislation

among "les gentilshommes" through the abbots who held fiefs owing suit of court. The composition of the assembly very nearly resembles that of our modern Court of Chief Pleas. It is most probable that the attendance of the constables at this court is a comparatively recent development, and that in olden days all free tenants of the king were bound to attend at the king's Court of Chief Pleas exactly in the same way as tenants of our manors do at the Chief Pleas of the manorial courts at the present day. We have hardly sufficient evidence to prove conclusively whether this body that we find legislating in 1429 was a special assembly called together for the purpose, or the Court of Chief Pleas. The evidence of the customs of other free communities in the middle ages rather points to the latter alternative, for we find similar legislative and judicial powers possessed for instance by the Court of the 100 peers, the supreme court of the free towns in France under the famous Norman civic charter "L'Etablissement de Rouen."

10th Mars 1433.

Thomas de la Court, Baillif, sous le Duc de Bedford, Seigneur des Isles. Acte de Cour par lequel sur la plainte de Jehan Falla et autres habitants du Clos du Valle, de ce que Dom Thomas Regnault, prêtre se disant procureur de l'abbé du Mont Saint Michel, les avait cités à comparaitre en cour d'Eglise devant le doyen pour répondre à certaines demandes qu'il faisait à cause du dîme, nonobstant les reglements faits cinq ans auparavant du temps de James Coquerel, Baillif, en vertu de lettres patentes du Roy, avec le conseil des gentilshommes et communauté de l'île. Il est ordonné au dit procureur de se désister de sa demande et de son proces comme étant contraires aux droits et prérogatives de la juridiction de la cour royale, la chose en litige étant une servitude appartenant à heritage.

Note.—Les gentilshommes et communauté de l'île mentionnées en cet acte representent sans doute les Etats.

E. MACCULLOCH.

III.

A tous ceulx qui ces presentes lettres verront ou orront Thomas de la Court Baillif de l'Isle de Guernesey soubz tres noble et tres excellent prince Monseigneur le Duc de Bedford Seigneur dez Isles salut. Savoir faisons que par devant nous a la ville de Saint Pierre-Port en la dicte Isle et en presence de Johan du Gaillard Olivier le ffeyvre Nicholas de Sausmarez Pierres Cocquerel Thomas Blondel Johan Caretier et Emon Henry jureys de la court de mon dit Seigneur en la dicte isle

furent presens et personnellement establis en droyt par devant nous comme dit est, cest a savoir Jehan Falla Guillot Bequerel Phelipot Johan, Johan Hamelyn Pierres Pereye Gieffrey Cousin tant pour eulx et en leur nom comme pour et au nom de plusieurs aultres des parrouessiens manans et habitans en la parrouesse et clos de Saint Michiel du Valle adjoignant a la dicte isle lesqueils nous ont exposey de leur partie en complainant sur ceu cest a savoir que comme parasoit ce que aultrefois environ par l'espace de chink ans passeys et finys audevant le dabte contenu en ces presentes du temps de homme pourveu et discret James Coquerel adonques juge et baillif en la dicte isle et notre predecessor nadgueres constitution et establissement generals eussent estez ordineys et establis par lesavants dits Baillif et jureys de la dicte court de mon dit Seigneur a ceu tous dun mesme assent et mesmement oveques le conseil sur ceu et bonne deliberacion des gentilshommes et bonne comunautey de la dicte isle et avesques et jouste la forme et tenour de certaynes lettres patentes Royalles contenantes et faisantes mencion de ce, Cest a savoir que sur la payne de corps et de bien teille comme au caas appartiendroit selon lexigence du caaz nulle creature ou homme privilege deglise ou autrement partie contre aultre faist citer convenir ou apprehender en court d'eglise pardevant le doyen ou autrement auscunes gents communes ou hommes sans privilege nommeys gents laeys pour en la cause ou caas queilz conquez dont la congnoissance et le droit appartienye et deye appartenir a la tres hault et tres excellente jurisdiction de mon dit Seigneur et de sa dicte court en la dicte isle si que ce ne soit tant seullement des caaz ou causez appartenantz cleirement a la dicte Court d'eglise et dont elle doye avoyr congnoissance ou le droyt Neantmayns et ceu nonobstant et apres et dempuis les dictes constitucions et establissement ainssuy ordonneys et faetz et par vertu et auctoritey des dictes lettres patentes comme dessus est dit publiez par cry et ban tant en court comme en fere et au marchy ung Dom Thomas Regnault, prestre soy disant et portant comme procurateur general en la dicte isle pour le reverend peire en dieu monseigneur labbey du Mont St. Michiel en peryl de la meyr dempuis nadgueres de temps enchea aussi comme voullant innoveir et attempteir en contre la tres haulte et tres excellente puissance et dignitez de mon dit Seigneur et de sa dicte jurisdiction en la dicte isle et en enfregnant tout a playn les establissementz et constitucions dessus dicts soit par ignorance, negligence, presumpcion ou autrement ad fait citier convenir et apprehendier lez ditz exposans comme dit est et les adtractyes par devant le dit doyen en la dicte court de leglise et illenques comme de ceu appert par les procez sur ceu faitz et demeneye et les ad poursuyts et de fait par longue espace de temps tant avant que nonobstantz leurs raensons allegiees au contraire il lez a fait adjugier et con-

dampneyr envers luy pour luy respondre illenquez sur la demande et poursuite dune certayne servitude ffyeuffal et touchant servitude d'heritage et fieu lay Cest a savoir a cause de luy assembleyr advenyr porteur...tous leur dixmez tout entierement et a leurs despens et coustages et en finaultes deritage la ou il pleroyt au dit procurator ou a son commandement a cause comme dit est. Par quoy veu ceux considerez que la dicte cause ou ceux qui touche servitude appartenant et descendant a heritage est et appartient de droit et justice a la juridicion de mon dit Seignour et de sa dicte court en la dicte isle tout playnement et a nul aultre si comme par commun oppinion et deliberacion davys des dits jureys dessus nomeys ovesques la relacion et assentement de Richard le Maesurer jurey semblablement et soy consentant ovesques eulx a estes sur ceu regardey et desclarey tout accordablement et selonc droit et que sur ceu et chescunes dez choses dessus dictes estes et en presence des dits jureys suymes dewement et playnement informeye. Et que si teilles entreprinzes ou procez avoyent lyeu ce seroit du tout contre les droits et prerogatives appartenants a la juridicion et dignitey de la tres haulte et tres excellente seygnorie de mon dit seignour, mandons et commandons par ces presentes fermement et expressement de par mon dit Seignour enchargeons a lavant dit procurator comme dit est ou a ses commys deputeys ou attourneys si aucuns en a en ycelle partie et sur la payne dessus dicte et teille comme par la dicte court de mon dit Seignour sont tauxeye et ordoneye que cez lettres vewes et a lui appararey et demonstreyes yl se deporte et desiste tout playnement tost et sans delay de sa dicte cause ou procez et poursuite oveques toutes les dependances dicelle cause einssuy par luy entreprinse et contre les ditz exposans et chescuns deulx comme dit est et que yl par luy ne par aultruy en nom de luy a cause de ceu ne les moleste vexe ou travaille ou aucun deulx ne les tracte ou faesche tracter en auscune manyere en ycelle ditte court ne aultre part en court deglise par nulle voye ou occasion des choses dessus dictes—si ce ne soit tout seullement en la court de mon dit seigneur et par devant les juges et officiers de la dicte court yllenques si bon luy semble a ceu faire pour sa partie. Desquelx regart et desclaracion des dits jureys dessus nommey les dits exposans et complegnants comme dit est nous requiserant lettres de nostre record et nous leur octroyasmes par le regard des dits jureys et selonc droyt. En tesmoing dequielle chose le seel de la baillie de la dicte isle de Guernesey a ces presentes lettres est appendu ffait et donney comme dessus est dit le disisme jour du moes de mars lan de grace mil quatre cents trente et troys.

LETTER OF THE 26TH MARCH, 1480/1,

BY WHICH AN ASSEMBLY OF OFFICIALS AND PEOPLE OF THE ISLAND APPOINT ATTORNEYS TO REPRESENT THEM.

In Sir Edgar MacCulloch's MSS. there is an 18th century copy of another document giving details of the constitution of another general assembly, differing somewhat to that of the one we have just considered. It is an act of an assembly of representatives of the people of Guernsey appointing attorneys to represent and act in the name of the community concerning certain engagements (*obligations* as they are called), entered into some time previously, between the people of the island and the Admiral of France. What these engagements were we unfortunately cannot tell, as the original document was either torn, or illegible, at the spot containing this information, which is left blank in the copy. What interests us is the detailed account of the constitution of the assembly making the appointment. It consisted of the Lieutenant Bailiff, the jurats, the clergy, (*les gents d'eglise*, as they are called), the constables of all the parishes and "les plus sains des manants et habitans de l'isle." The two attorneyes appointed to represent the people of Guernsey were Edmund de Chesney, Bailiff of Guernsey, and Richard Harliston, Captain of Mont Orgueil Castle and Governor of Jersey.

Can we consider this assembly a meeting of what in those days corresponded to our modern States? One is tempted to think so, as such a body would have been the only one with authority to act in the name of the whole island. It will be noticed that the constitution of the assembly differs somewhat from that of the one we find legislating in 1429. *Les gentilshommes* for some reason or other had disappeared and had been replaced by the constables, and the clergy had been added. It is possible that some reform of constitution had taken place in the interval.

IV.

A tous ceulx qui ces presentes lettres verront ou orront John Blondel lieutenant de honorable gentyllhomme Edmond Cheyne Baillif de nostre Souverayn Seygneur le roy dengleterre en lisle de Guernesey salut en dieu savoir faisons que par le conseil et bon advis tant des jureys de la Court Royale de nostre dit souverayn seyneur en la dite isle savoir est Druet le Marchant, Thomas Blondel, John Martin, Nicholas de Garris, Thomas de Haveillant, Thomas de Saumares, John Perrin, Pierres le Mesurier, Nicholas Fouaschin, Simon Ettur et James Duport,

que aussi des gents desglise pareillement des connestables des parroesses et de la plus saine part des manants et habitants en la dite ysle avons commys et ordonez et par ces presentes commettons et ordonons pour nous et en nos noms honorables et discrets gentilshommes Richard Harliston capitaine et gouverneur du chastel de Montorguyle et isle de Jersey et le dit Edmond Cheyne baillif de la dite Isle de Guernesey nos procurours factours et attourneis generaulx et especiaux pour faere besoyngner tenir et appointier avecques lamyral de France ses officiers ou commys touschant et au regart le faet du reste des et obligations sur ce du temps passey factes enqueilles serions aulcunement oblygies ou tenus au dit amyral promettans tous ensembles uniement avouer* (*sic*) et tenir ferm et estable et agreable tout ce qui sera faet et procurey par les dis honorables gentilshommes Richard et Edmond pour son (*sic*) nom de nous second la forme et manyer des endenteures factes et approuves entre eulx et nous sans alleir dire ou faere au contraere en temps advenir aulcunement. En tesmoing des queilles choses le scel de loffice de la baillie de la dite isle de Guernesey a ces presentes lettres est mys et appendu le 26e jour du moes de mars lan de grace mil CCCC et ^{XX}/_{III} faet et donney à la ville de Saint Pierre Port en la dite isle de Guernesey comme devant est dit.

LETTER OF RICHARD NEVILLE, EARL OF WARWICK
DATED 1st APRIL, 1465,
APPOINTING THOMAS DE LA COURT TO BE HIS LIEUTENANT
IN GUERNSEY.

This document is a commission of Richard Neville, Earl of Warwick, Lord of the Isles, dated the 1st April, 1465, appointing Thomas de la Court to be his lieutenant in Guernsey and Castle Cornet, to hold this office with the same emoluments and powers, as it had been previously held by Denis Le Marchant. Neither of these names appear on any of the lists of our Lieutenant Governors. Both Thomas de la Court and Denis Le Marchant were Jurats of the Royal Court and prominent Guernseymen in the 15th century.

Denis Le Marchant was the son of Pierrot Le Marchant, Seigneur of the Manoir du Haut des Marchants. This manor is situated to the west of High Street, and extends from the arch near the Constables' Office nearly to the top of St. James' Street. He was one of the three jurats who commanded the three Guernsey ships that took part in the blockade of Mont Saint Michel during the month of May, 1425. Either on the total defeat of the English force under Thomas Lord Scales, by the Bretons, under the Constable de

* Avouer.

Richemont, in the month of June following, when the blockade was raised, or on some subsequent occasion during the war with France, he was taken prisoner and had to sell some of his 'rentes' in Jersey to pay his ransom.

Thomas de la Court was the son of Thomas de la Court, Bailiff of Guernsey, by his wife, Jennette de Saint Martin. He was Seigneur of Trinity Manor, Jersey, which had been sold to his father by his uncle Thomas de Saint Martin, who had been taken prisoner, with his son, during the war with France, and was compelled to sell his estates to pay his ransom. Thomas de la Court took a prominent part in the siege of Mont Orgueil Castle, Jersey, 1461-1468, and was rewarded by the Earl of Warwick, who gave him, on the 21st March, 1464/5, all the escheated Jersey manors belonging to his cousins John, Guillaume, Raulin, and James de Saint Martin, who had adhered to the French on the capture of Jersey by de Brezé. Later, in 1468, he was appointed Bailiff of Guernsey. He was probably succeeded in his post as lieutenant by another Jerseyman, Geoffrey Walsh, Seigneur of Handois, who held that office in 1468, and was afterwards killed at the battle of Barnet in 1471, fighting under the banner of the Earl of Warwick, the Lord of the Isles. Thomas de la Court seems to have died in 1470, when he was succeeded as bailiff by Pierre de Beauvoir. The family of de la Court, one of the most ancient and honourable in the island, has been extinct since the end of the 16th century, but their memory is still preserved by the well-known charity, founded by Monsieur Jean de la Cour, Jurat of the Royal Court, the last of his race, who bequeathed certain houses and rentes to form a fund to be administered by the Bailiff and Jurats for the relief of the poor and also to assist the education of poor scholars.

V.

Richard Neville conte de Warewyk et Salisbury Seigneur de Bergeveny des Isles de Guernesey Jersey et des autres Isles a Icelles adjoingnans Grant Chambellan d'Angleterre Capitaine de Calais et lieutenant des marches denviron A tous ceulx qui ces presentes verront ou orront salut : Savoir faisons que nous confians a plain es sens loyaute et bonne prudence de nostre tres cher et bien-aime serviteur Thomas de la Court et aussi pour les bons et agreables services qu'il nous a fais en temps passe et esperons que face en temps advenyr icellui Thomas avons fait ordonne constitue et estably, faisons ordonnons constituons et establissons par ces presentes nostre lieutenant de nostre dicte Isle de Guernesey et de nostre chastel Cornet : A avoir tenir et

exercer ledit office tant comme il nous plaira aux droits charges profits privileges et prerogatives au dit office appartenant en telle forme et maniere comme Denis le Marchant derrainement nostre lieutenant en icelle nostre dicte Isle avoit pour l'exercice du dit office de lieutenant. Et donnons en mandement a tous nos autres officers et subjets de nostre dicte Isle de Guernesey que au dit Thomas de la Court en deument exerçant lofficie dessus dit et les choses concernans icellui ils obeissent aident et assistent comme il appartient. En tesmoing de ce nous avons fait mettre le scel de nos armes en cestes presentes. Donne a Londres le premier jour d'avril lan de grâce Mil quatre cens soixante-cinq.

(D'après l'original scellé du sceau d'armes en cire rouge du comte de Warwick en la possession de Nicolas Lefebvre Ecuier.)

VIDIMUS BY THE BAILIFF AND JURATS OF GUERNSEY 4TH FEBRUARY 1477/8 OF LETTER OF JAMES NORRES, GOVERNOR OF GUERNSEY.

This document gives the name of a hitherto unknown Governor of Guernsey, and throws a little light on the government of the island during the six obscure years between the death of Richard Neville, Earl of Warwick, Lord of the Isles, at the battle of Barnet, 1471, and the appointment of William de Courtney as Captain of Guernsey on November 4, 1477. It is what may be called a *vidimus* by the bailiff and jurats of Guernsey on the 4th February 1477/8, of a letter written in English, to Nicholas Henry, fils Jacques, by James Norres, styled formerly Captain or Governor of Guernsey, and Norres' signature is attested to by Thomas Blondel, who was acting as his attorney in Guernsey.

A point in Norres' letter deserving special notice is the reference to an interview that Nicholas Henry had had at Warwick with "my lorde" and to the orders given to him by "my lorde." Who was this lord who was interested in Guernsey affairs at Warwick? Certainly he was not Richard Neville, Earl of Warwick, who had been killed at the battle of Barnet in 1471, as the whole tenor of the letter shows that the interview had recently taken place and to "my lorde" being still alive. One cannot think of any possible connection between Guernsey affairs and Warwick at this date, unless a suspicion that I have had for some time proves correct, namely, that George, Duke of Clarence, who married Isobel, the eldest daughter of Richard, Earl of Warwick, became Lord of the Isles, when he was advanced to all the Warwick honours by Letters Patent, 25th March, 1472. As will be

noticed, the date of Norres' letter is uncertain, but it must have been written either on the last day of February, 1477, or of the year previous. Another point of interest is the sale of wine, gunpowder, &c., to Edward Courtney, lieutenant of William Courtney, his brother, who from the context seems to have succeeded Norres as Captain or Governor, for he says that "I understande the Captain hathe taken this mone of thaym yat they asenet to pay me by obligacion wherefor I wyll avise the tenants that sholde a payde me to take arest of the gret farmes at ester tyll he have paide thayme agayne that mone for be God I wyll be paide ones & the lawyll." William de Courtney was appointed Captain of Guernsey by Letters Patent of 4th November, 1477, nine months at least later than the date of this letter. If as seems probable he is the Captain referred to by Norres, then this appointment by the king must have been a confirmation of an existing one made by someone else, possibly by "my lorde at Warwick" of the letter who we may eventually find to have been the Duke of Clarence.

VI.

A tous ceulx qui ces presentes lettres verront ou orront Pierres de Beauvoir baillif de nostre Souverain Seigneur le roy Dengleterre en lisle de Guernesey salut en dieu Savoir faesons que par devant nous en la ville de Saint Pierre Port en la dicte isle le xv jour du moes de fevrier lan de grace mil CCCCLXXVII et en presence de Thomas Blondel Johan Cartier Nicholas de Garis Thomas de Havellant et Johan Martin jures de la court de nostre dit Seigneur le roy en la dicte isle soe comparut personnellement cest a savoir Nicholas Henry fils James* de la ville de Saint Pierre Port lequell nous pretendit et demonstra une lettre missive de par James Nores nagueres capitaine de cest isle de Guernesey au dit Nicholas Henry escripte en papier de propre main du dit James Nores si comme Johan Blondel attorney du dit James Nores le confessa par devant nous et rattiffa tout le contenu en icelle et le tint pour bon dont la tenor sensuit et est teille.—Ryght worshypfull sir, I commande me to you thankyng you as hartely as I con for the gret kyndnes that I have fonde with you syth that ye come into Englonde and in a speciall when ye were at Warwicke with my lorde gone grace, I underestonde by youre writynge what was youre

* NOTE.—Nicholas Henry was King's Procureur in 1475, and had previously acted as Receiver of the Lordship of the Isles in Guernsey. In a deed of 14th December, 1475, he is styled—"procureur et nadgueres receveur pour la seigneurie en la ditte isle de Guernesey."—He was grandson of Nicholas Henry who founded in 1395 the chapel of Notre Dame de la Perelle (now called Sainte Apolline) on his manor of La Perelle, with the permission of Richard II. and that of the Abbot of Mont Saint Michel.

comenyacions wythe my lorde, for the which I have cause to thonke you and so I shall if I live, also I undurstonde by your wrytynge that ye have spoken withe master chanseler, for the which I am ryght glade, for yt was on of the best partes that ye colde a don, and the wittest; also I undurstonde by your wrytynge that maister chanseler does pray you to come into englonde agayne when ye hade ones ben at Garnesay, and if ye so do, I am therefore beholden to you and put no dowtes but I schall se to youre costis ryght largely, also the gret point is this, if ye colde be your wysdom get the bale⁽¹⁾ and the jurats to wryte to my lorde what my gydynd was when I was in the isle and whedur that I gyet me accordyng to the lae⁽²⁾ there, and I kno well that cholle be a gret pleasure to my lorde, *multam sapienciam et nihil ei dicas*, recommande me to Thomas Blondell and to John Blondell and to Nicholas Fouachin with all others such as ye suppose that owes me good will; as for Perton hyt is but fole to sende hym to me till I have ben ones in Garnesay; and also I ryde on monday next coming into Lancashyre, and hit wyll be ner ester or I come agayne, but for all that my materes shall not be onlaburt, also ye remember that I solde to Edward Cortenay leffetenant to his brother William Cortenay bothe wyne, sidre, besket, salt, gunpowder, to the some of XIII£, I understonde that the capten hathe taken this mone of thaym, yat they asenct to pay me by obligacion, wherfor I wyll avise the tenants that sholde a payde me to take arest of the gret farmes at ester, tyll he have paide thayme agayne that mone for be god I wyll be paide ones and the lawyll. When ye come into englonde nexte I shall make you myn atornay in that matter also I have wreten a letter to the bale I pray you delyver hit to hym secretly, also such mone as ye gave to the berer herof shal be aloude withe all other things as largely as one man con thenke be reson for ye have wonen at this tyme the stumast of my hert. I con wryt no more but I comet all matters to youre wysdom, at Burton upon Trent in the last day of fevrier . . . yere your treue lover James Norres.—De la quelle lettre missive ein si examineie le dit Nicholas Henry requist nostre lettre de recort qui luy fut otrie selon droit. En tesmoing des quelles choses le seel de la baillie de la dicte isle de Guernesey a ces presentes est appendu les dictes parties presentes lan et le jour dessus dits.

(En la possession de Charles Lefebvre, Ecuyer, Greffier de la Cour Royale de Guernesey. Anno Domini 1478.)

(1) NOTE.—The Bailiff.

(2) Law.

THE SUNSHINE OF GUERNSEY FOR THE YEAR 1914.

BY MR. A. COLLENETTE, F.C.S.

1914 although a year of low sunshine was better than 1913 by 180 hours.

The average year is now one of 1,902 hours. This average was not reached, for 1914 totalled 1,871 hours only, thus showing a deficit of 31 hours.

The table shows that the heaviest losses were made in March and July, when the deficits were 34 and 42 hours respectively. March's deficit was won back in April, but the loss sustained in July was greater than the gains of the next four months.

The two curves plotted for the year shows that the accumulated totals were never very far from the average line.

The average daily sunshine for March and July is 3.30 hours and 7.18 hours respectively, but the mean values of 21 years are 4.36 and 8.36 hours.

The last 5 years have with one exception (1911) proved to be years of low sunshine, but 1914 is certainly an advance on the two which preceded it.

We have an average of 46 sunless days in the year, but this year we have had 57.

The proportion of the sunshine in each month to the year's total is instructive, as it shows how very much the summer months have departed from the normal.

TABLE I.

DURATION OF SUNSHINE AND
Campbell-Stokes

Months	SUNSHINE.								
	Monthly Totals.		Nearest Hours.		Percentages of the Possible.			Mean Daily Values.	
	1914.	21 Years' Averages.	Highest on Record.	Lowest on Record.	1914.	21 Years' Averages.	Highest on Record.	1914.	21 Years' Averages.
	1	2	3	4	5	6	7	8	9
January	56	58	82	48	21	22	30	1·8	1·8
February ..	36	85	119	45	29	29	40	2·8	3 0
March	109	143	228	84	29	39	62	3·5	4·6
April	234	196	261	129	57	48	63	7·8	6·5
May	247	248	339	184	52	52	72	7·9	7·9
June	239	246	314	192	49	51	65	7·9	8·1
July	222	264	382	187	45	54	78	7·2	8·5
August	257	239	326	186	58	54	74	8·3	7·8
September ..	192	187	269	107	52	51	72	6·4	6·2
October	122	121	159	111	37	37	48	3 9	3·9
November ..	72	69	113	40	26	25	42	2·4	2·6
December ..	36	46	71	18	14	18	29	1·2	1·4
The Year ..	1871	1903	2215	1691	42	43	50	5·1	5·3
Highest	247	264	1899						
Lowest	36	46		1913					

TABLE I.
PREVALENCE OF CLOUD.

Instrument.

SUNSHINE.			Sunless Days.		Sunniest Days.			CLOUD.	
Differences from Averages	Proportion of the Year's Total.				1914.		Previous Record.	0 to 10.	
	Hours.	1914.	Averages.	1914.	Averages.	Duration.		Day.	1914.	Averages.
10	11	12	13	14	15	16	17	18	19
— 2	2·9	3 0	10	10	7·5	22nd	8·5	7·4	6·6
+ 1	4·6	4·5	7	6	9·8*	27th	9·7	7·4	6·2
— 34	5·8	7·5	9	3	10·9	31st	11·8	7·6	5·5
+ 38	12·5	10·3	2	1	13·1	20th	13·6	4·1	4·8
— 1	13·2	13·1	3	1	14·4	18th	14·7	4·8	4·6
— 7	12·8	13·0	2	1	15·2	29th	15·6	5·3	4·9
— 42	11·9	13·9	2	0	15 2	10th	15·5	6·7	4·6
+ 18	13·7	12·6	0	1	13·6	30th	13·9	4·4	4·6
+ 5	10·3	9·8	2	1	12·8*	3rd	12·8	5·0	4·6
+ 1	6·5	6·3	2	4	10·2	1st	10·8	5·5	5·9
+ 3	3·9	3·6	6	7	6·6	18th	8·8	7·0	6·5
— 10	1·9	2·4	12	11	5·5	3rd	7·9	7·0	5·7
— 32	100	100	57	46	15·2	June and July	15·6	6·0	5·3

* New Record.

THE RAINFALL OF GUERNSEY FOR THE YEAR 1914.

BY MR. A. COLLENETTE, F.C.S.

The year has proved abnormal in the distribution of its rainfall.

January began the year with a light fall of over a third less than the normal. On an average of 3·74 inches there was a deficit of 2·11 inches, but the dry conditions changed to wet on the 6th of February and the wet weather prevailed until the 29th of March, and these two months contributed 11·31 inches, nearly 27% of the total when the averages would lead us to expect but 14%. The excesses were for February 2·70 and 3·22 for March. The first 10 days of April were wet and 1·31 inches out of April's total of 1·41 inch were collected. The extra 0·10 inch fell on the 29th and 30th, the interval between the 10th and 29th being dry, and constituting a drought of 18 days.

April, May and June were months of light rainfall with deficits of roughly 1 inch each. May had an interval of eleven days without rain, and 10 days were wet, occurring in broken intervals of one or two days each, which is rather unusual. June had 12 wet days and these grouped themselves in three intervals with three or four dry days between. The rain fell between the 8th and 23rd, the beginning and end of the month being dry.

July was a wet month, the grouping of the wet days being somewhat unusual. Five wet days occurred between the 1st and 14th, but only two of these were consecutive; but from the 14th to the 19th, and from the 22nd to the 27th, two groups of 6 days each occurred. July's excess was small, only 0·15 inch.

August began wet; the first seven days averaged 0·11 in. and totalled 0·76 in. Then the next six days gave a total of 0·02, followed by torrential rain on the 14th, when 2 inches fell in some parts of the island and about $1\frac{3}{4}$ inch generally.

The 25th was a day of heavy rain, but otherwise the month was not a wet one, indeed except for the excessive rain of the 14th the month would have proved dry. The heavy fall was due to a thunderstorm and it caused an excess of rain in an otherwise dry month.

September was a month of the same character as August, for more than an inch fell on the 16th, but for which the month would have been dry.

October in the averages is the wettest month of the year, but it was not true to its character this year, for the total was under four inches instead of nearly five. A dry period began on the 28th of September, and lasted until the 11th of October, being a drought of 15 days, and as only one wet day occurred, it was also a partial drought of 22 days.

November was $\frac{1}{2}$ an inch in deficit, but became wet on the 24th, and from that day to the end of the year, 38 days, there was no break, every day being wet and many very wet. December thus proved to be an excessively wet month of more than 3 inches in excess of February and nearly 3 inches over March.

December's rainfall was phenomenal, not certainly the wettest we have had, for its total was 8·78 inches, and we have had one December with over 11 inches, but even that year, 1876, had only 30 wet days, and this December had 31. The fall was 4·55 inches in excess of the average, but that average is 4·23 inches, hence we had more than twice the average fall.

The year proved to be 6 inches in excess of the normal, having a total of 42·67 instead of 36·64 inches.

The proportion of December's rainfall to the year's total is normally $11\frac{1}{2}\%$, this year it was $20\frac{1}{2}\%$. The three months, February, March and December, gave us 47% of the year's total instead of 26%.

The number of wet days was 219 instead of 164, that is 55 over.

During the last six years there has been an alternation of high and low rainfalls which I cannot trace in the older records.

	inches.		inches.
1909	= 34·00	1912	= 46·51
1910	= 46·16	1913	= 36·14
1911	= 37·11	1914	= 46·67

The distribution of rainfall over the island this year is consistent with former results and shows that the west coast of the island is from 3 to 4 inches, per annum, drier than the east coast.

Jersey, St. Helier's, is practically the same as our west coast and had we other districts of that island, we would, I think, find as much difference between the opposite coast as on our own island.

Alderney and Sark have smaller totals than any other of the islands, but here again we have the results of single stations only.

We are thus accumulating evidence that the rainfall of the islands is not, in any case, a fixed quantity, but varies considerably with the position of the gauge.

I am indebted to Mr. Rowswell for the totals and details of Jersey, Alderney and Sark.

TABLE I.
RAINFALL AT ST. MARTIN'S ROAD.
Inches.

Months.	Rainfall.			Greatest fall in one day.		Percentage of Monthly Falls to the year's total.		Wet Days.	
	Monthly Tls.		Difference between Cols. 1 and 2.	Amount	Day.	1914.	Normal.	1914.	Averages.
	1914.	72 years' Averages.							
January ..	1 ¹ ·63	3 ² ·74	- 2 ³ ·11	0·51	5 ⁴ th	3 ⁶ ·8	7 ⁷ ·4	8 ⁸ ·16	9 ⁹ ·19
February..	5·34	2·64	+ 2·70	0·95	4th	12·6	7·2	25	16
March	5·97	2·65	+ 3·22	0·69	11th	14·0	7·2	29	16
April	1·41	2·29	- 0·88	0·34	4th	3·3	6·2	12	14
May.....	1·09	2·06	- 0·97	0·40	22nd	2·6	5·5	10	11
June	0·97	2·05	- 1·08	0·22	14th	2·3	5·5	12	11
July	2·30	2·15	+ 0·15	0·85	19th	5·4	5·9	18	11
August ..	3·41	2·45	+ 0·96	1·78	14th	8·0	6·7	14	14
September	4·10	2·98	+ 1·12	1·10	16th	9·6	8·1	17	14
October ..	3·72	4·93	- 1·21	0·56	28th	8·7	13·4	15	19
November	3·95	4·47	- 0·52	1·19	30th	9·3	12·4	20	19
December	8·78	4·23	+ 4·55	1·00	6th	20·4	11·5	31	19
The Year..	42·67	36·64	+ 6·03	1·78	Aug 14	100·0	100·0	219	164

TABLE II.
DISTRIBUTION OF RAINFALL OVER THE ISLAND.—1914.

Inches.

Months.	South & South East.			East.		West.			South-West.		Whole Island
	St. Martin's Road.	Les Blanchés, St. Martin's.	Hautnez, Forest.	Villa Carey, Grange.	Colborne Villa, Rohais.	Mont Saint, St. Saviour's.	St. George, Castel.	Cobo, Castel.	Le Hechet, St. Peter's.	Villiaze, Forest.	Means of all Stations.
January	1.63	1.48	1.39	1.64	1.55	1.21	1.33	—	1.12	1.37	1.41
February....	5.34	4.71	4.46	5.16	5.96	4.30	4.39	—	4.78	4.37	4.83
March.....	5.97	5.67	4.60	5.47	5.15	4.90	4.69	—	5.52	4.62	5.17
April.....	1.41	1.21	1.16	1.32	1.47	1.21	1.21	—	—	1.19	1.27
May.....	1.09	0.95	0.99	1.23	1.28	1.23	1.11	—	—	1.17	1.13
June.....	0.97	0.92	1.16	1.09	1.01	1.02	1.08	—	Discontinued.	1.15	1.05
July.....	2.30	2.48	3.06	2.56	2.48	2.47	2.78	2.65	—	2.91	2.63
August....	3.41	3.19	3.55	3.36	3.51	2.44	3.19	2.07	—	3.89	3.18
September..	4.10	3.43	3.88	4.27	4.33	4.07	3.69	2.50	—	3.84	3.79
October....	3.72	4.02	3.74	3.59	3.25	3.53	3.59	3.35	—	3.57	3.59
November...	3.95	3.72	3.72	4.30	4.35	3.31	3.94	4.09	—	3.70	3.89
December...	8.78	8.29	8.26	9.13	9.25	8.69	8.66	8.32	—	7.57	8.55
The Year...	42.67	40.07	40.04	43.12	43.05	38.38	39.66	—	—	40.35	40.91
Comparisons	100	95	95	102	101	90	91	87	—	94	96
Wet Days...	219	209	218	192	219	?	230	—	—	218	215
Observers ...	Mr. A. Collenette.	Mr. B. Rowsell.	Waterworks Co.	Dr. F. Carey.	Mr. T. Guilbert.	Mr. S. C. Curtis.	Rev. H. Stevens Guille.	Mr. H. I. Jones.	Mr. F. Lilley.	Waterworks Co.	Means obtained from the monthly totals shown in the table.

FALLS OF 1 INCH OR OVER, IN ONE DAY.

July 19	—	—	1.00	—	—	—	—	—	—	1.03
August 14 ..	1.78	1.54	1.90	1.80	2.02	1.27	1.80	1.58	—	1.61
September 16	1.10	1.17	1.27	1.26	1.25	1.50	1.02	1.10	—	1.29
November 30	1.19	—	1.00	1.21	1.18	—	1.08	1.10	—	—
December 6..	1.09	—	—	—	1.00	—	—	—	—	—

TABLE III.

GUERNSEY EAST AND WEST COAST RAINFALL COMPARED WITH
THAT OF JERSEY, SARK AND ALDERNEY.

	GUERNSEY.		JERSEY.	ALDERNEY.	SARK.
	Guille-Allés Library.	Mont Saint, Mr. Carey Curtis.	St. Helier's, "Evening Post."	Le Hurét, Mr. W. J. Picot.	Creux, Capt. F. H. Henry.
January	in. 1·73	in. 1·21	in. 1 59	in. 1·38	in. 1·58
February	5·33	4·30	3·70	4·40	4·41
March	5·70	4·90	5·42	4·24	4·71
April	1·36	1·21	1·21	1·17	0·91
May	1·38	1·23	0·92	0·70	0·62
June	1·09	1·02	0·73	0·58	0·73
July	2·55	2·47	3·32	3·18	3·12
August	3·50	2·44	2·70	2 12	3·07
September	4·24	4·07	3·54	3·47	2·83
October	3·69	3·53	3·92	3·50	3·05
November	4·24	3·31	3·49	3·68	3·33
December	9·05	8·69	8·39	8·69	7·25
The Year	43·77	38·38	38·93	37·11	35·61
Wet Days	200	?	?	172	187

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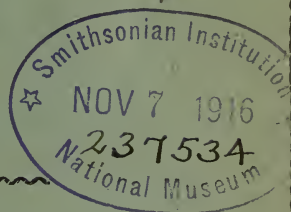
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 1914—Kinnorsly, Dr. G. E., Jurat of the
 Royal Court Calais, St. Martin's.
 1915—Leale, Mr. H. C. Vale House, Vale.
 1882—Le Cocq, Mr. Saumarez Clifton Lodge.
 1913—Le Masurier, Rev. A. G. St. Matthew's, Cobo.
 1912—Le Messurier, Mr. H. C. Beauséant, St. Martin's Road.
 1903—Le Mottée, Colonel G. H., Jurat of
 the Royal Court May Trees, Hauteville.
 1911—Le Pelley, Mr. J. Q. Vauvert.
 1912—Le Pelley, Mr. H. City & Midland Bank, High-street.
 1882—Lowe, Rev. F. E., M.A., F.E.S.,
 Membre de la Société Lepidop-
 tère de Genève St. Stephen's Vicarage.
 1911—Luff, Mr. E. A. La Chaumière, Brock Road.
 1903—Macleane, Mr. E. F. H. La Bigoterie.
 1894—Mainguy, General F. B., ex-Jurat
 of the Royal Court Les Rocquettes.
 1888—Marquand, Mr. E. D., A.L.S. The Willows, Totnes, Devon.
 1896—Marquand, Mr. H. E. Star Office, Bordage Street.
 1914—Marett, Prof. R. R. Excter College, Oxford.
 1907—Mauger, Mr. H. E., H.M.'s Sheriff Bon Air, St. Martin's.
 1900—Mellish, Miss A. L., M.A. Ladies' College.

* Junior Member.

- 1911—Metman, Mr. R. Les Vaurioufs, St. Martin's.
 1913—Molesworth, Hon. C. R. Dunlery, Ville-au-Roi.
 1908—Moon, Miss A. Les Fontaines, King's Road.
 1913—Moon, Mr. J. A. Les Fontaines, King's Road.
 1913—Moon, Mrs. J. A. Les Fontaines, King's Road.
 1915—Moore, Mrs. F. Queen's Road.
 1905—Naftel, Mr. A. M. 13, George Road.
 1907—Nicolle, Advocate E. T. 3, Norfolk Terrace, Jersey.
 1914—Ozanne, Miss C. Saumarez Street.
 1899—Penfold, Rev. J. B. V. Beaumont, Cambridge Park.
 1889—Penney, Rev. W. C., M.A. Elizabeth College.
 1882—Pitts, Mr. J. L., F.S.A. (Normandy) Guille-Allès Library.
 1906—Randell, Miss Clara Grove End, Doyle Road.
 1896—Robilliard, Mr. P. E. La Piette.
 1903—Robinson, Dr. E. L., M.R.C.S.,
 L.R.C.P. Melrose, Gravées.
 1914—Rolleston, Mr. W., M.A. Yandilla, Grange Road.
 1904—Rowswell, Mr. B. T. Les Blanchés, St. Martin's.
 1907—Sincl, Mr. Joseph 12, Royal Crescent, Jersey.
 1915—Slocombe, Miss M. Ladies' College.
 1909—Spencer, Mr. R. P. Brock Road.
 1903—Tanner, Mr. F. L., L.D.S., R.C.S.,
 F.Z.S. Vauvert House.
 1905—Tanner, Mrs. Vauvert House.
 1893—Tourtel, Rev. R. H., M.A., B.D.,
 F.S.A. (Normandy) Torteval Rectory.
 1913—Tourtel, Miss M. Havilland Vale, St. Martin's.
 1906—Végeais, Miss Brock Road.
 1903—Wild, Dr. H. S., M.R.C.S., L.R.C.P. Gravées.
 1908—Woolcombe, Dr. Robert Lloyd, M.A.,
 LL.D., F.R.G.S., M.R.I.A. 14, Waterloo Road, Dublin.

NEW MEMBERS (1916).

- Gould, Mr. A. A. The Uplands, Upland Road.
 Palmer, Mrs. C. 40, Hauteville.
 Vaudin, Mr. W. Zeeland, Vale Road.

TRANSACTIONS OF THE SOCIETY.



Owing to the war, it was found impracticable to hold a Soirée this year.

Monthly Meeting held at the Lukis Museum, Grange Road (by kind permission of the Committee), March 17th, 1915, Miss A. L. Mellish in the chair.

Mr. H. C. Leale, Vale House, the Vale, was elected a member of the Society.

This meeting was held at the Lukis Museum in order to afford the members of this Society an opportunity of inspecting not only the valuable archæological collection it contains, but more especially the manuscripts, drawings and water colour sketches, the work of various members of the Lukis family. The attendance was very large.

Col. T. W. M. de Guérin having been asked to make a few remarks explained the origin of the Museum which had been formed by Mr. F. Corbin Lukis to preserve the prehistoric treasures found in the dolmens of this island which he had caused to be opened and thoroughly examined. The writing and pen and ink sketches in the bound volumes of manuscripts were the work of Mr. F. C. Lukis himself, while the exquisite paintings of the dolmens of this island and of Brittany and other places, as well as of objects found therein, were executed by his daughter, the late Miss Marianne Lukis. The Museum afterwards came into the possession of Capt. F. du B. Lukis (son of Mr. F. C. Lukis) and was by him bequeathed to the States of Guernsey. Following the inspection of the manuscripts and drawings, Col. T. W. M. de Guérin conducted the party round the Museum and pointed out the most interesting objects, explaining their use and origin. The unhesitating manner in which he replied to the questions which were put to him convinced the audience of his thorough acquaintance with the subject.

No excursions took place during the summer, but in the early part of August a week's visit was paid to the Island by some thirty members of the Société Jersiaise who, in company with a large number of members of this Society, visited the chief places of interest in this island. For a detailed account of this visit the reader is referred to the separate paper found elsewhere in these *Transactions*.

OPENING OF THE WINTER SESSION, 1915-16.

Monthly Meeting held November 17th, 1915, Miss A. L.

Mellish in the chair.

Mr. A. A. Gould, The Uplands, St. Peter-Port, was elected a member of this Society.

Col. T. W. M. de Guérin reported that excavations had been recently made at the Tudus dolmen. No additional side chambers had been discovered, but a broken stone hammer and a granite implement had been found. Two long stones lying east and west had been uncovered, which might form part of a stone circle surrounding the dolmen.

Considerable interest was manifested in a photograph of a boulder lying on the beach between Guernsey and Lihou, and covered at high water. The upper surface has been excavated to a depth of about two inches, this excavation conforming to the shape of the block and leaving a rim of uniform width all round. An attempt appears to have been made at some remote, perhaps prehistoric period, to hollow out the stone into the shape of a trough with the intention of removing it when lightened of the superfluous material, and abandoned probably on account of a flaw in the block.

A shrike was exhibited, the first shot in this island, though three specimens had been previously secured in Jersey; also a fish called a bogue (*Box vulgaris*) whose habitat is the Mediterranean. It somewhat resembles a shad, and was caught off the Brayes on September 23rd by Mr. Charles Ferguson. A number of flint flakes from Mr. H. J. Morgan's garden, and a peculiarly shaped flint found in the 25 foot beach near Fort Le Marchant were also shown. The latter is considered by Mr. A. Collenette to be an eolith and is similar in shape to one figured by Dr. Churchward as the work of a dwarf race still inhabiting Central Africa.

Mr. A. Collenette read a paper on peat deposits in this island and Major S. C. Curtis one on the evolution of the Town Church (St. Peter-Port). Both these papers are printed in this year's *Transactions*.

Thirty-third Annual Meeting of the Society held on Wednesday, December 8th, 1915, Miss A. L. Mellish in the chair.

Mr. W. Vaudin, of "Zeeland," Vale, was elected a member of this Society.

The report of the Antiquarian Section was read by Major S. C. Curtis; that of the Entomological Section by Mr. F. L. Tanner, in the absence of the Rev. F. E. Lowe; the report of the Geological Section, prepared by Mr. A. Collenette, and that of the Ornithological Section, written by Mr. B. T. Rowswell, were read by Mr. C. G. de la Mare. No reports from the Botanical and Marine Zoology Sections had been received. Mr. Pitts' report of the Folklore Section had not been completed but will appear in the *Transactions*.

The report of the Council was read by the Secretary, and the Secretary read his own report.

The elections then took place. Both the Secretary (Major S. Carey Curtis) and the Treasurer (Mr. C. G. de la Mare) were re-elected, as were also all the members of the Council, viz.: Messrs. J. L. Pitts and B. T. Rowswell, the Rev. F. E. Lowe, Mr. R. Metman, Miss C. M. de Guérin and Mr. D. B. Cromartie.

Monthly Meeting held on Wednesday, January 27th, 1916, Miss A. L. Mellish in the chair.

Mrs. Cecil Palmer, 40, Hauteville, was elected a member of the Society.

A paper containing a list of words in the Guernsey dialect compiled by the Rev. R. H. Tourtel and not found in Metivier's Dictionary was introduced by the Secretary and is printed in these *Transactions*.

Various objects found in the peat at Vazon were exhibited.

Mr. A. Collenette read his paper on the Sunshine and Rainfall in Guernsey and the other islands of the bailiwick during 1915. This was, as on previous occasions, illustrated by slides in the electrical lantern.

Report of the Council for the year 1915.

During the past year, owing to the continuance of the war and the prevailing uncertainty arising therefrom, the Summer Excursions were limited to the first week in August, when the visit of some 30 members of the Société Jersiaise was made the occasion of Excursions to Castle Cornet and the Churches and Dolmens of Guernsey. A full report of this visit appears elsewhere.

The Council take this opportunity of expressing their pleasure at the welcome repetition of their visit 15 years ago, and trust that the Society may be able to accept the invitation of the Société Jersiaise to visit the sister isle during the year 1916. The Council has provisionally fixed the date as the last week in July, which appears to be convenient both for us and our confrères in Jersey.

Papers were read during the indoor sessions by Mr. A. Collenette in January on the Rainfall and Sunshine of 1915. The March meeting took the form this year of an evening visit to the Lukis Museum, by kind permission of the Lukis Museum Committee, and was much appreciated by all who took part in it. At the November meeting Mr. S. C. Curtis read a paper on the Evolution of the Town Church, tracing its development from a small fisherman's chapel to the present church. This is published *in extenso* in this year's *Transactions*.

MEMBERSHIP.

The membership this year is 98 as against 105 last year.

OBITUARY.

The Bailiff, Sir William Carey, President of the Society 1911-1913, to the great regret of the Island, died on July 27.

His genial personality, and transparent interest in all relating to Guernsey made him liked by all, and although his duties as Bailiff did not permit his taking an active part in the Society latterly, his interest in it, arising from his lengthy membership dating from 1891, always remained the same.

The Council of the Society has, as in former years, to thank the Management of the Guille-Allès Library for their continued interest in the work of the Society, for the use of the room for the meetings and for the Great Hall in connection with the soirée to the Jersey visitors, and for a generous contribution to the Fund for Prehistoric Research, through the Curator of the Museum, Mr. A. Collenette.

The following additions have been made to the Society's Library during the year by exchange :—

- From the Torquay Natural History Society :—
Journal of the Society for 1915, with Index.
- From La Société Jersiaise, Jersey :—
Quarantième Bulletin Annuel, 1915.
Actes des Etats de Jersey, Jan. 1793—Juin 1795.
- From the Smithsonian Institute, Washington, U.S.A. :—
Annual Report, 1913.
Annual Report of U.S. National Museum, 1914.
Report, Library of Congress, 1914.
Publications, Library of Congress, Jan. 1915.
Account of a Meteor Crater in Arizona.
- From the Boston Society of Natural History, Boston, Mass.
Proceedings, Vol. 34, No. 13.
Proceedings, Vol. 35, No. 1.
Fauna of New England, Part 12.
Fishes of New England, Salmon Family, Part I.
- From the Academy of Natural Sciences, Philadelphia :—
Proceedings, Volume LXVI., Part III.
Proceedings, Volume LXVII., Parts I. & II.
- From the Lloyd Library. Cincinnati, Ohio, U.S.A.
Bibliographical Contributions, Vol. II., Parts 4, 5 & 6.
- From the Wisconsin Academy of Sciences, Madison, Wisconsin :
Transactions, Vol. XVII., Part I., Nos. 1-6 ; Part II.,
Nos. 1-6.
- From the Queensland Museum, Brisbane :—
Memoirs of the Queensland Museum, Vol. III.-IV.

Report of the Antiquarian Section for the year 1915.

In spite of the continuance of the war, and the limited number of excursions, there has been a considerable amount of work to be recorded.

In February last, a very fine Flint Knife or Scraper was found by Capt. J. Proctor, 1st R.G.L.I., during the digging of some trenches for military purposes on L'Ancrese Common. It was nearly perfect, and is the largest and finest of its kind yet discovered in Guernsey. Capt. Proctor presented it to the Lukis Museum, where it now is. Around it when found were many flakes of flint, but none having any appearance of having been intended as instruments.

In September, consequent on some suggestions made by several members of the Société Jersiaise during their visit in the previous month, an application was made to the States Committee in charge of the dolmens of the Island for permission to examine the dolmens of Déhus and the Creux des Fees. The States Committee had placed the work under the charge of Col. T. W. M. de Guérin, who has been good enough to write a description of the examination, which is attached. It will be seen that at Déhus, a considerable portion of the mound within the circle of stones has not been examined, and though the result when the clearing of the ground has been carried, may be barren, it is felt that it should be undertaken, but the expense of doing so will be considerable—estimated at £20—and the funds at our disposal for Prehistoric Research are not at present large enough to do anything in the matter.

S. CAREY CURTIS,
Hon. Sec. Antiquarian Sect.

REPORT OF COL. T. W. M. DE GUÉRIN.

Examination of Mound of Dolmen of Déhus, Vale, October, 1915.

The work was commenced by digging a trench round a flat stone on the south side of the dolmen, to the west of the two side chambers. This stone was found to be broken in two pieces. The ground around and beneath it had been recently disturbed and consisted of loose soil and stones mixed with a few bones, limpet shells and flint flakes, which had evidently been thrown there during the previous examination of this dolmen and its surroundings by Mr.

F. C. Lukis. Other trenches were dug to the north-west and north of the dolmen, but everywhere the soil was found to have been disturbed at the previous examination. Subsequent reference to Mr. Lukis' account of his excavations showed that he had examined the whole of the exterior of the western end of the dolmen. The mound on the north side was sounded with an iron bar, but no trace of any large stones could be discovered; but as a considerable portion of it is covered by a large heap of soil and rubbish thrown out of the interior of the dolmen by Mr. Lukis, our examination cannot be considered exhaustive. The circle of upright stones marking the edge of the mound to the north and north-west was found to be unchanged since Mr. Lukis examined it. A dry stone wall has been built between the stones to form the boundary of the field. We were fortunate enough to find a good granite neolithic grinding trough lying on the north-west edge of the mound.

The space between the props on the south side of the interior of the dolmen, opposite No. 4 side chamber, was examined. It was found to be completely filled up with limpet shells resting on a flat paving stone wedged between the props. The thigh bone of an ox, which had been split to extract the marrow, lay horizontally across the mass of shells at about 15 inches from the level of the floor. Several stones wedged between the props formed a sort of roof to this small recess. No trace of human bones or pottery was found in it. On the opposite side of these props, in the north-west corner of No. 4 side chamber, a very similar recess was found covered by a small capstone. In it was a large hammer stone, a flint scraper and a few limpet shells mixed with the soil.

Examination of Mound of Dolmen of Le Creux des Fées.

At the end of October, Mr. Collenette and I examined the mound covering the dolmen. Several shafts were sunk near the southern props, but no trace of side chambers could be found. The ground of the mound was also thoroughly searched with a sounding bar, but no large stones were struck near the dolmen. One, however, was come upon towards the edge of the mound about 18 feet due south of the second large capstone covering the western end of the chamber. This was excavated and found to be a large stone, lying east and west, about 7 feet in length, 2 feet 6 inches in depth, and about 12 to 15 inches wide. The western corner of the south face of this stone was supported by a round stone placed there purposely by man. Trenches were dug to the north and south

of the stone down to the natural soil. On the southern side two other stones were discovered, also lying east and west, about 15 inches from, and parallel to, the one first discovered. They were each between 5 and 6 feet long by from 12 to 15 inches square, and were placed end to end, but at a lower level than the first. The soil excavated was moved ground mixed with fragments of stone, not a trace of pottery, limpet shells or black earth, usually denoting internments, could be found. It is difficult to determine the object of these stones. The two lying end to end might have formed part of the circle surrounding the mound, but as far as we could tell by carefully sounding, no other stones were near them. The single stone to the north of them was of much greater depth and looked as if it might have been intended to form part of a secondary cist, but no trace of other stones could be discovered to the north of it, where from its position they should have been found if this was the case. Further, at about a foot from the surface of the mound, the soil was so indurated as to almost resemble natural soil, and cannot have been moved for centuries, probably not since the mound was erected by neolithic man, proving that no cist had been destroyed at this spot in modern times.

**Basin excavated on boulder on beach at N.W. point
of L'Érée.**

On our first examination of the mound of the dolmen of Le Creux des Fees, our attention was drawn by Mr. John Nicolle, caretaker of Colonel Walters, of L'Érée, to a basin excavated on a boulder lying on the beach about 100 yards due north of the stone seat at the extreme north-westerly point of the promontory of L'Érée. The stone is a waterworn boulder of irregular shape, about 3 feet in length, 2 feet 4 inches in depth, and 1 foot 9 inches in breadth at the widest part of its upper surface. It lies about east and west at its longest axis, slightly tipped towards the south-east. On the upper side of the boulder is excavated a basin or trough of irregular shape 2 feet 10 inches long by 1 foot 7 inches in breadth at its widest part, the rim being about one inch in width and depth 2 inches. The bottom of the basin is comparatively flat, but is pitted with small circular depressions as if the structure of the stone had been broken up by heavy blows from some convex object. The excavation appears very ancient and shows no trace of having been worked by metal tools. The regularity of the rim and the depth of cavity shows that it had undoubtedly been made by man, and

was not due to natural friction of pebbles on the beach. It probably once stood on the land surface not far from its present position, and in consequence of the erosion of the sea it fell on the beach. At the present rate of erosion at this part of the coast this must have happened some hundreds of years ago.



BOULDER WITH EXCAVATED BASIN, on beach at L'Erée.

NOTE.—According to an article on “Les Laverasses en granite, du Bocage Vendéen. Leur origine néolithique; leur usage primitif,” by Dr. E. Boismoreau, of La Vendée, in “Bulletin de la Société Préhistorique Française,” Tome X. (1915), p. 713, similar troughs or basins excavated on granite boulders are found in La Vendée. The basins are usually round or oval in shape, the largest, that at La Guillerie, measuring 30 c.m. by 18 c.m. They are excavated on the flat upper surface of the boulders and sometimes are accompanied with cup-markings and “polisoirs.” The surface of the basins is well polished and seems to have been worked out with a flint “burin.” They are considered to belong to the neolithic period.

Report of the Entomological Section, 1915.

Though we had a fine summer and insects were abundant, there was little in the way of discoveries to reward diligent work. I have reason to fear, on the other hand, that the number of our species has declined, that the enormous extension of greenhouses and the destruction of trees to accommodate them with sufficient sun, together with the cutting up of many pastures for bulb growing, have considerably reduced the number of butterflies and moths.

In two important respects, it must be admitted, my investigations were seriously handicapped. I could neither "sugar" nor use the attraction of light. Owing to the war, military authorities prescribed the use of lights under severe limitations, which were especially stringent near the coast. Thus a stay of five weeks at the Pleinmont Hotel—June 22, end of July—was robbed of more than half of its entomological possibilities. This was the more vexatious as it is the first time for over 25 years that I have been in Guernsey during those weeks, the most productive to the entomologist of the whole season. I add little therefore to our local list as the result of my enjoyable but often laborious days on the cliffs. In a few instances, where only a single specimen of a species had been previously recorded, and on what seemed sometimes doubtful authority, I was able to give fresh testimony to its occurrence.

In the earlier days of summer I had an interesting experience, when ornithology clashed with entomology. I had aimed a careless stroke of the net, and had missed a geometer, probably *Xanthorhœ fluctuata*, it flew a couple of yards and I made for it again, but before I could reach it a swallow dived between us, and also missed, but doubled back and caught it, all within two feet of my extended net. June 22 I took *Artica villica*, *Nemoria viridata* (4), *Perizoma flavofasciata* (*decolorata*), fairly common, and *Epinephele jurtina* abundant. I took many *N. viridata* later, seldom in good order.

June 22 *Hipparchia semele*, the "Grayling," began to be common, also *Zygæna trofolii*, both of which increased in numbers to an enormous extent during the next ten days. *Adista statices* was also widely distributed and numerous, and *Melitæa cinxia* became common. I got one nice banded male aberration. But a surprising early emergence was that of *Epinephile tithonus* on the 23rd, when the males appeared in fair numbers. The females did not appear until the 29th. This butterfly is generally regarded as a late July insect.

I worked very hard for pupæ of one of our Guernsey specialities, *Dianthæcia luteago*, var. *lowei*. I only obtained three in all. These emerged successfully June 26th, 27th and 29th. The last, a fine female, has none of the yellow-tone of "*lowei*," but seems to be a veritable var. *Baretti*, the Irish form.

In early July by lifting the broom and heather where it grows like a mat on the rocks, larvæ of *Selidosema ericetaria* and *Lithosia caniola* were to be had not infrequently. I bred a few of each. I also bred a long series of the rather local moth *Dasychira fascelina*. But it was a great disappointment not to find one of the beautiful larvæ of *Lasiocampa trifolii*. For many years I have not seen a single larva of this species. In the "eighties" I used to find it abundant. I fear it has become almost extinct. Two *Miltochrista miniata* were beaten out of the hedges at La Grande Mare. This pretty thing is of rare occurrence here. I also obtained a good series of *Coremia unidentaria*, important, as up to the present its only Guernsey record has been an odd specimen which came to light in my study some years ago.

At the same time and place *Cabera examthemaria* was common among shallows, another insect which had hitherto been on our list also only on my authority, but based on testimony now a quarter of a century old.

While on the subject of captures of local interest I will mention here *Craniophora ligustri*, which has only been taken once before. On August 20th, *Scotosia dubitata* obligingly flew into the house and was caught. The late Mr. Luff says in his catalogue of our "Macros"—"have seen two specimens." Whether he means he had seen two which he was not able to box, or whether, as I think is more likely, some person showed him two specimens, and he doubted their local origin, must remain uncertain.

I was also very pleased to have brought to me for identification a nearly full-grown larva of *Eumorphu elpenor*, the "Elephant Hawk," for this has never been noted before in Guernsey in any stage of its transformations. It was taken on the ground by Mr. William Rougier, when working in the well-known "Caledonian Nursery." This with one *Noctua subsequa*, and *Hyponomeuta plumbellus*, completes the list of new species added this year to our list of Guernsey Lepidoptera.

To me the most interesting capture as finding a place in my cabinet was oddly enough a specimen of the common "Large White," *Pieris brassicæ*. This is a notable aberration,

a female with a widened black border of fore wings, with extended dashes to the two black spots on the disk—these are also united by a black suffusion. The whole of the base and costa are exceptionally dark. It comes very near var. *Wollastoni*, figured in Seitz's "Macrolepidoptera of the World," as a Madeira form of our scourge of cabbage gardens. I should also relate that I saw one *Vanessa io*. This beautiful species the "Peacock" I can hardly think is always with us. For years together it is not seen, and when seen only one or two in a season. I do not think I could have taken, had I wished it, ten specimens in the 36 years I have lived here. So conspicuous an insect can hardly be overlooked. The extraordinary quantity of the "Meadow Brown," *Epinephile jurtina*, is worthy of remark. A patch of ragwort some twelve feet across in a neglected front garden of a cottage at Torteval was one morning alive with these butterflies. They were literally in hundreds. I examined them carefully for aberrations and all were *jurtina*, with the exception of a single male *E. tithonus*.

ADDITIONS TO OUR GUERNSEY LIST.

Pieris brassicæ, var. *Wollastoni* (?).

Eumorpha elpenor, as larva.

Scotosia dubitata.

Noctua subsequa.

Hyponomeuta plumbellus.

FRANK E. LOWE, F.E.S.,
Secty. Entom. Section.

Report of the Ornithological Section, 1915.

All unconscious of the deadly conflict raging in Europe, without passport, let, or hindrance, the birds have come to us as usual this summer from far distant climes. The Chiff-Chaff has uttered its sweetly melodious note in the tree tops, the Cuckoo and the Wryneck have proclaimed their presence in the same old way, we have seen and heard Swallows and Swifts, and watched their aerial frolics. The arrival and sojourn with us for a while of these and other feathered visitors has gladdened our over burdened lives this year as never perhaps before. For have we not envied them their freedom of travel, above all the happiness and gladness revealed so clearly, to those who have eyes to see and ears to hear, in the joyousness of their song and the lightheartedness of their movements.

What do the birds know of war and rumours of war? They quarrel and squabble amongst themselves and indulge occasionally in family troubles it is true, but how much shedding of blood does this involve? No, they are too full of the joy of life, too happy in the enjoyment of the sunshine, the rain and the wind, too busy in the prosecution of their domestic affairs to find time or inclination to engage in sanguinary conflicts. Civilisation or what passes for it is alone capable of such savagery.

And now the birds are again gone, but only for a little while. In a few months' time they will be back with us once more. In the meantime let me give you the results of this year's observations of myself and several members of our Society, as well as of some others who have supplied me with valued notes. To all who have helped I take this opportunity to tender hearty thanks.

And let me begin with an extract from an interesting letter sent me by Dr. Creswell, of Le Guet, Castel. He says: "This year Cuckoos and Wrynecks have been by no means so numerous as formerly. Of the former I have only watched the feeding of two young ones, one by a Meadow Pipit in my own premises, and another by a Robin in the grounds of the Sanatorium. And whereas in former years I could see or hear a fair number in my immediate neighbourhood (on one occasion I saw five at the same time flying over the adjoining common) this year there seemed to be only two anywhere near my house, evidently the parents of the Meadow Pipit's foster child.

"Of Wrynecks I have neither seen nor heard one this year, though previously I have always had them in my own garden. There has also been a shortage of Linnets and Skylarks on the Guet common as compared with past years. Magpies too, hardly seem as numerous anywhere in the island as they used to be, and as these birds are very conspicuous and not at all shy, my motoring has actually given me an increased facility for their observation.

"Last year I used to see flocks of about a dozen or eighteen Grey Wagtails (*M. melanope*) feeding on the dunes at Port Soif in September and October, running about quite close to me and well shewing their yellow underparts relieved by their intensely black gorgets. It was always a pretty sight. But this year I have seen none, though that is probably due more to my rapid travel than to their absence.

"The Kingfishers that used to haunt the rocks just below my house seem to have disappeared, and I have

reason to suspect that one or more of our Guernsey "sportsmen" may be responsible for this. A pair of Greater Blackbacked Gulls that used to live in Cobo bay are not to be seen now. Never this year have I heard the Landrail [Corncrake]. There always used to be a pair in the field behind the Cobo Mission Hall."

I fear Dr. Creswell's surmise as to the fate of the Kingfishers may be only too true. Infrequent visitors with conspicuous plumage have small chance of their life here. As regards the poor Kingfisher its rich dress is its death warrant. I myself know of an instance where a specimen was wantonly shot at St. Martin's, the only excuse given for its shooting being that it was "a pretty bird."

I shall now read you a few notes about some of our better known summer visitors, with date of their arrival, departure, &c.

Chiff-Chaff.—Just at the time when this early spring visitor was due to arrive a well-marked spell of wintry weather burst upon us. From March 25 to 29 a strong biting east wind prevailed and on the 30th snow fell all the morning and most of the afternoon. This day with a mean temperature at Les Blanchés of 35·7 deg. was no less than 10·2 deg. colder than the normal. During the prevalence of this pronounced and late cold snap (it ended on April 1st) the birds fell very silent, and whether or not to it was due the lateness of date on which the Chiff-Chaff announced itself I cannot say. But however this may be, it was not until April 1st that I first heard the note and also saw the bird—in the Bon Air grounds at St. Martin's. This is our latest date since 1907 for first hearing the bird. The Chiff-Chaff makes a lengthy stay and all through September and on genial days in the early part of October may still be heard. This year I heard one in the Vardes as late as October 19th. In 1908 Mr. E. D. Marquand heard the note in the Talbots Valley on October 22nd.

Wheatear.—Mr. J. S. Hocart, of Les Mielles, writes me that the Wheatear was very scarce on l'Ancrese Common this summer, and from his observations at the Vale and my own at St. Martin's I conclude that the bird was late to arrive and early to depart. Certainly in the nine years' record we have, April 6th (Mr. Hocart's date for first seeing this migrant) is our latest date by three days. At St. Martin's I did not see any until the 13th. One or two may generally be seen on the Petit Port cliffs throughout the season and this year I saw them there up to October 11th. At l'Ancrese Mr. Hocart saw none after the 10th. With the exception of last year, when none were noted after October 1st, the Wheatear disappeared apparently from one to two weeks earlier than usual.

Wryneck.—The Wryneck was certainly late in arriving for no information has come to me of its bracing note having been heard before April 11th, on which day, as reported by the Rev. R. H. Tourtel, of Torteval, it was noted at Le Grée in that parish by Mr. Langlois. On this date also, by the way, it seems to have been first heard at Sark. (In some years the Wryneck announces itself before the end of March.) At St. Martin's I did not hear the welcome song until the 18th, and for the Vale Mr. Hocart has given me April 26th. From Mr. Hocart's yearly notes I gather that the Cuckoo's mate is not particularly fond of the neighbourhood of l'Ancrese and this year's observations resulted in this comment: "it sang for a few days, then disappeared, and I did not hear it again

until the 4th July, and last heard it on the 6th." At St. Martin's the song was heard all through May and June and, by me, up to July 8th. This is an early date for last hearing the bird in my part of the island, but the Rev. Tourtel's notes make an interesting supplement. He says: "the bird seems not to have been heard in June, but there was one in the neighbourhood of Torteval Church on July 11th, 12th and 13th, again on July 18th, 19th and 20th when the note was frequently heard, and for the last time (at Les Galliennes) on the 25th." There is only one later date in our twelve years' record for last hearing the Wryneck. This was in 1908 when Mr. Hocart heard one on July 30th. Dr. Creswell, as already stated, did not once hear the bird this year.

Cuckoo.—Five days after the reported arrival of the Wryneck, the Cuckoo proclaimed itself. It was heard at Becq du Nez, St. Martin's on April 16th by Miss K. Tardif, at Havilland Hall Farm, on the 20th by Mr. and Mrs. S. Henry, and at Sausmarez Manor on the 26th by Miss Boley. At both the Vale and Torteval it was first heard on the 18th. It is interesting to note how the dates given for the smaller islands of the Bailiwick agree with our own. According to the *Evening Press* the Cuckoo was heard at *Alderney* on the 16th, and for *Sark* the 17th was given me as the date of the bird's arrival there. As often as not the Cuckoo may still be heard singing in the early days of July, but not so this year. My last date was June 21st. At Mount Row, however, on the evening of the 25th, as reported by Miss Henry, one was extremely vociferous, and it was heard for the last time in that neighbourhood on the 27th which is also Mr. Hocart's last date for the Vale. For Torteval Rev. Tourtel said: "heard frequently during latter half of June. Last date the 28th." In *Sark* the bird was heard frequently during the first fortnight of July and for the last time on the 14th by Capt. Henry, of La Vallée du Creux. In 1902 I myself heard a Cuckoo in *Sark* as late as July 14th. I may add that the latest date recorded in the *Transactions* for Guernsey is July 13th (1907).

Swallow.—On April 6th near the Imperial Hotel, at Pleinmont, Mr. R. P. Spencer had the pleasure of seeing a Swallow. We have no earlier date for the coming of the Swallows, but in 1909 Mr. E. D. Marquand saw some at Hounet Homtolle on the same day of April. The arrival of the forerunners of the main body shortly to follow are very interesting to note. On April 11th some of these were seen at Havilland Hall Farm and also on the north-east coast; on the 14th and again on the 18th I saw one or two at St. Martin's, and on the 19th Mr. Hocart did, at the Vale. By the 28th the birds were decidedly more numerous, and on May 4th were about in plenty and continued so throughout the summer. Towards the end of September a marked thinning in numbers was apparent, but up to the end of the second week of October some were still seen daily, after which they became scarce. Mr. Hocart's last date is the 26th, and mine the 28th, when I saw a couple flying low over a field at Les Vardes. Miss K. Tardif has supplied me with an exceedingly interesting observation. On the evening of September 30th she saw, and watched for some time, a flock of several hundred Swallows flying about over the fields along the Jerbourg road. She says the sight was quite dazing; and it reminds me of a similar huge flock of Swifts I saw over the cliffs at Les Fontenelles on August 11th, 1910. In each case I fancy it must have been a flock on migration halting here on its journey, for feeding probably.

House Martin.—I have not seen the Sand Martin again this year, neither has it been reported, but the House Martin—the "Swallow" that looks as if its tail had been cut off short and with the patch of white feathers in the rump which often when the bird is seen from above looks

like nothing so much as a snowflake floating in the breeze, has been here as usual. I saw none, however, until May 1st (some must, I think, have arrived earlier) and I saw none after October 5th—a very early date for last seeing them. House Martins stay normally as late as Swallows.

Swift.—On the same date as last year (April 28th) and one day earlier than in 1913, Swifts were observed to have reached our shores. On that day Miss K. Tardif saw one at l'Islet, and on May 1st I saw three circling about the Town Church tower; two days later the number of these steeple-loving birds had gone up to seven. It was Grant Allen I believe who wrote of the Swifts as "canonical birds that haunt the village steeple," and certainly they seem to delight in circling round tall objects. These birds I am glad to say have again been abundant this summer, but as far as my own observations go the main body departed early, few being seen after July. The Town Church party were still *en evidence* on August 10th uttering their shrill cry as they chased each other round the tower, but I did not see them again. Miss Tardif saw one on the Fermain cliffs on the 15th, and on the evening of the 18th I saw one (the last) near the Hermitage at St. Martin's. Stragglers are often seen well into September, but none have been reported this or the last two years.

Corncrake.—We are still being deserted by the Corncrake—what can be the cause? Only one observation of the occurrence of the bird here this summer has been supplied me. This came from Mr. G. F. Allès who reported hearing the well-known croak near the Forest Church on June 11th. Rev. Tourtel said, "have not heard the Corncrake this year." Dr. Creswell's evidence has been given already, and a farmer of Les Bemonts, St. Andrew's (a favourite haunt of this bird when it does come), told me on July 17th that he also had not heard the cry this season. Corncrakes are unknown now in Sark I have heard, but appear to migrate in numbers to Alderney. Both Mr. R. P. Spencer who was in that island in the early part of May, and Miss K. Tardif in June, have told me that Corncrakes were abundant there then. In connection with the almost total disappearance of the bird from Guernsey it is interesting to note that its growing scarcity in some parts of England in recent years has aroused a good deal of comment. The following paragraph from the *Yorkshire Weekly Post* of August 28th may be cited as an example. The writer, Mr. F. Skelton, said: "You recently mentioned the great scarcity of Corncrakes in Holderness this year. "Is it possible that the birds have gone westwards, for I have never seen as many Corncrakes as there were round Nantwich and in Cheshire generally this season?" I may add that I saw no reply to this query.

Nightjar.—I have no record of the Nightjar having been seen here this year, but at Sark Mr. S. Henry disturbed one on two successive days at the beginning of October. He tells me that the Sark name for the bird is Grosse-goule (big mouth); the patois name here is, I believe, Engoulent.

Great Grey Shrike.—The shooting of a Great Grey Shrike (Butcher bird) at the Marais, St. Sampson's, on October 23rd, is the event of the year. This bird is a very rare visitor to the islands—in fact this is the first specimen recorded for Guernsey and Mr. Sinel says that only three specimens have been taken in Jersey in the last thirty years. Cecil Smith in his "Birds of Guernsey" (1879) writing about the Redbacked Shrike, said: "I have no evidence of any other Shrike occurring in the islands, though I should think the Great Grey Shrike might be an occasional autumn or winter visitant to the islands; but I have never seen a specimen myself or been able to glean any satisfactory information as to the occurrence of one, either from the local bird-stuffers or from Mr. MacCulloch, or any of my friends . . . ;

"neither does Professor Ansted mention it in his list." This welcome acquisition to our list was, I may add, shot by a Mr. Snell from whom it was acquired for the Guille-Allès Museum and where it may now be seen.

Blackstart.—Mr. R. P. Spencer saw a Blackstart at Alderney (on the Blayes) on May 5th, but I have not heard of any having been seen here.

Moorhen.—In recent years this report has included notes on the Moorhen. Cecil Smith wrote in 1879 that he had never seen the bird in Guernsey alive and considered it a migrant only. A few years ago I was told there were some at Saumarez Park, importations my informant said, and for several seasons one wintered regularly at Sausmarez Manor, St. Martin's. This latter bird, however, was not seen there last winter, nor has it so far (December 7th) turned up this year. A twelvemonth ago one was brought alive to the Library for identification, and Dr. Creswell writing to me on the subject said that to his certain knowledge the Moorhen was a resident and a breeder in Guernsey. To this I may add that in a note from the Doctor, dated June 21st, 1915, he said: "Apropos of my remarks a while ago on the Moorhen as a resident in Guernsey, I have an egg of this bird taken two or three weeks ago from a site in the northern district." And only a short time back Dr. Bullar, of l'Islet, wrote me: "It may possibly interest you to know that I reared some Moorhens from the egg and have them on my quarry pond quite tame. Attracted perhaps by them came a Little Grebe. I think we saw it first in the end of August." Evidence in support of the belief that the Moorhen is becoming a resident here is certainly increasing.

BASIL T. ROWSWELL,
Hon. Sec. Ornithological Section.

Report of the Folklore Section, 1915.

SOME CHARACTERISTICS OF GUERNSEY FOLKLORE.

All the Members who take an interest in Guernsey Folklore, and who have paid any attention to its investigation, must have been struck with the very large proportion of witchcraft legends that enter into its composition—in fact witchcraft or demonology, in one form or other, seems to constitute by far the greater part of the local popular beliefs, and one certainly comes across stories—told in perfect good faith by unimpeachable narrators—which are quite staggering in their details and inferences. I was told of one very curious incident, only the other day, which will illustrate what I mean:—

Two old ladies, sisters, lived together in a cottage in a certain part of this Island, while in another cottage, a little distance away, lived a second family. The inmates of the two cottages were friends. One season they jointly fed a pig which was located in a sty at the first-named cottage. In process of time this pig grew fat, was duly killed, and its

carcase was cut up in the usual way. Then came the duty of distributing the pork, to a share of which the family in the second cottage was of course entitled. One morning one of the sisters set off with some joints of pork to carry to her neighbour, and she duly left them at the second cottage and then returned home. Great however was her astonishment when she reached her own residence to find that the identical pieces of pork which she had taken to her friends had got back before her, and were again lying in the place whence she had taken them. She consequently at once carried them over to the cottage again, and again they returned. This was repeated three or four times. She could never account for the occurrence, but she always averred most positively that it took place, and she often spoke about it to a nephew, who was my informant. Now, what can one make of such a happening, which certainly, in itself, seems most improbable? The old lady could hardly have been mistaken about having herself carried the pork to her neighbour, and she was not a woman who would deliberately make up such a story simply for the sake of exciting wonder. She evidently fully believed it. Was it true or was she unconsciously in error? But she frequently and strenuously asserted that her statements were facts.

Another feature to which she also alluded was that while these mysterious events were occurring, a horse—quite a stranger to the neighbourhood—kept ambling up and down in front of her cottage, apparently in an entirely aimless way. Ultimately the animal trotted off, and then the occult intervention ceased. So the case stands. The whole narration is most improbable. Yet one of the chief actors in it implicitly asserted its truth. *She* was there, *we* were not. Under these circumstances one could scarcely tell the old lady: “You did *not* carry the pork to your friends. The story is all imagination.” Like many other legends that are told in good faith and at first hand one can only record it, and leave it as an unexplained mystery.

The circumstance of the horse, however, is worth noting. Last year in my Report I recalled the launch of the *Concordia* at St. Sampson's in 1836. There witchcraft was supposed to have intervened and a bird was seen flying backwards and forwards across the vessel as the latter unaccountably stuck on the “ways.” This introduction of the animal creation when witchcraft is afoot seems peculiar to the Island.

In many of these witchcraft legends a demon is brought in who is always spoken of as *The Devil*, yet he is obviously

not at all the devil of popular evangelical theology. A being who may generally be found tin-potting around Torteval, with half a bushel of parsnips in a wheelbarrow, is certainly not a personage who is likely to be the actuating power of, and responsible for, all the moral evil of the universe as we are told *the devil really is*. I have never found this Guernsey devil credited, for instance, with the possession of more than half-a-bushel of parsnips at once—never a bushel. He is evidently in a very small way of business. In the short reports of the old witchcraft trials preserved at the Greffe Office, the accused persons usually say that they first met *the devil* near Torteval or St. Peter-in-the-Wood and he had about half-a-bushel of parsnips which he was wheeling in a barrow. And thus they struck up an acquaintance. This devil of Guernsey folklore indeed seems to be really a survival or lineal descendant of one of the forest gods of the older faith. We generally find that in the case of the inevitable changes that come about, the gods of the old religion become the devils of the newer faith. And this is what probably occurred in Guernsey. This popular Guernsey devil has very little in common with the truculent demon of the Faust legend, and he has still fewer of the attributes of the magnificent fiend of Milton's *Paradise Lost*. He is altogether on a lower level and is built on a smaller scale.

There is also another question about this Guernsey devil. Who was he at all? Did the misguided dupes who gave evidence or made confession under the ancient law really meet some man in the country who was posing as the devil, or was the whole episode nothing more than the work of their own imagination? The old forest gods were non-existent. They were merely the figments of the worshippers' minds. Was this traditional Guernsey devil any more substantial? Was his barrow a real barrow, and the parsnips it held, were they actually edible roots? If they were, where had they come from? And how had the so-called devil obtained them? Guernsey is not a large country, and in those days its population was a mere fraction of what it is now. So that it would not have been unreasonable to suppose that if a real man and a real wheelbarrow had been present, this traditional devil and his belongings would have been individually recognised by some of those who are said to have thus scraped acquaintance with him. But we do not hear of any recognition of this kind.

Another prevalent feature is fatalism—the strenuous belief that what is to be *will* be and *must* be in spite of all

opposition. There is a widespread belief in this fatalistic theory running through Guernsey folklore, and it naturally pieces on to the other beliefs to which I have just referred. I had an amusing instance of this fatalism some time ago:—

I was going down to the Library as usual one morning when, in passing through the Plaiderie, I overtook a young woman who was also going townwards, in the same direction as myself. At the same time another young woman was coming from the Pollet in an opposite direction. They were evidently both very respectable young people, and of about the same station in life—probably engaged in some businesses in the town. Whether they knew one another or not I cannot say. As they neared each other I casually noticed that the damsel from the Pollet was staring somewhat aggressively at the one from the Plaiderie. And the Plaiderie didn't like it. On the contrary she greatly resented it. So just as the girls met, the Plaiderie, pulling herself together and ruffling her feathers, said: "Well, Miss, do I owe you anything?" "Go along, you cocknosed thing," replied the Pollet, "and don't lose your temper!" "Well, retorted the Plaiderie, "If I am a cocknosed thing, I'm as God Almighty made me, and its no business of yours." Brief as the whole incident was, there was, to my mind, something remarkable about it. The suddenness of the onslaught and the readiness of the repartee, also the strong sense of fatalism that pervaded it. After the scrimmage I glanced at the Plaiderie and, well, I won't say she was a "cocknosed thing," because it's rude—but certainly, in Tennyson's politer phrase, she was a little "tip-tilted like the petal of a flower." Evidently from her retort to the Pollet, the Plaiderie thought that somewhere in the far-away æons of a bygone eternity it had been written in the *Book of Fate* that her facial features were to be of a particular type and she accepted the conditions and was content.

It would be easy to add many more similar stories, as told in perfect good faith by the alleged participants, but the Report is too long already, and the remainder of the matter must wait.

J. LINWOOD PITTS,
Hon. Sec. Folklore Section.

Report of the Geological Section.

Owing to the absence of organised excursions during the continuance of the War, there has been no work done

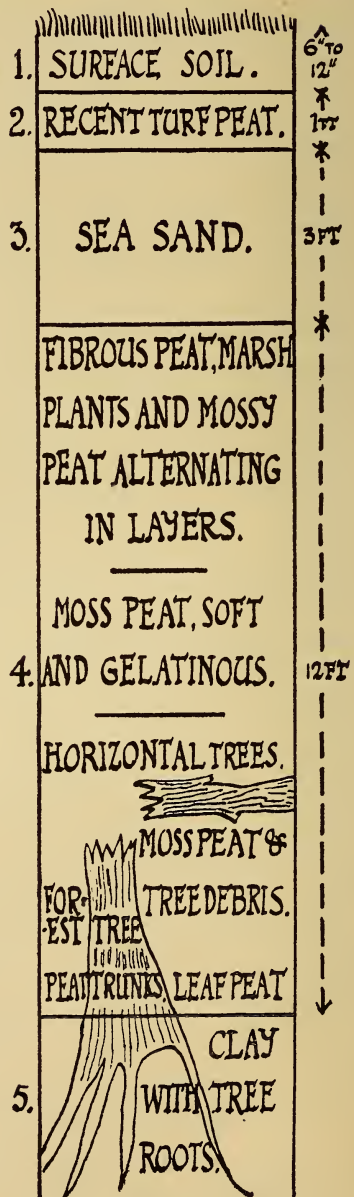
by the Members of this Section with the exception of the examination of peat deposits, which, in consequence of the dearness of coal, are being utilised.

The localities examined are : Two openings at Vazon and one at the Foulon.

That at the Foulon may be classed as a marsh peat deposit, the period being so far undetermined. The deposit is of moderate depth (6 feet about), consist of marsh plants and, as far as we at present know, show an absence of large trees.

Owing to silting up of the natural drainage of the valleys to the west, the low lands extending from the Rohais to Cobo became marshes, the last parts being Mare de Carteret and Grande Mare. Thus the whole district so described must, at one time and probably for many hundreds of years, have been composed of dangerous bogs, and no doubt in many places there are good deposits of peat which should contain the bones of animals and men of the late Neolithic period.

The drainage of the Talbot Valley as well as the deposit of marine sand produced a similar result at the Grande Mare, the peat of which extends under the whole of the flat surface where free from rock out-crops—but there is this difference, the lower portion of the Vazon Peat is submerged forest, whereas at the base of the Castel hills, as far as known, only marsh peat exists.



Section of Peat Deposit at Vazon.

The Foulon peat is the result of a small local marsh caused by a silt-basin which was drained when the Foulon to Bouët doubt was cut. This must have been in existence a very long time as evidenced by the depth of the peat.

There is no geological reason for differentiating the peats from each other in respect of age. They all belong to the Forest period and have continued down to recent and even to historical times as regards their last remains.

The order of deposits is as follows :—

- 1.—Land silt varying from a few inches to about 1 foot.
- 2.—An upper peat deposit 1 foot thick.
- 3.—On the sea coast: A marine deposit of from 12 to 36 inches in thickness.
- 4.—Mossy peat of dark brown colour containing branches of trees. Marshy peat, black, soft and in places amorphous. 4 to 6 feet in thickness.
- 5.—True forest peat with roots and trunks of trees. Light yellow clay.

A. COLLENETTE,
Sec. Geological Section.

Visit of the Société Jersiaise to Guernsey,

August 2nd to 6th, 1915.

AT the beginning of July the Hon. Secretary received a communication from the Hon. Secretary of the Société Jersiaise (Mr. E. T. Nicolle) asking if it would be convenient for that Society to visit Guernsey, as it was now fifteen years since their last visit. A Council Meeting was called, the proposal put before it, and it was resolved that the Society should arrange a programme of places to be visited. This programme was submitted to the Société Jersiaise and was accepted, and was eventually carried out almost in its entirety.

The visitors were met on Monday, August 2nd, at the White Rock by Mr. A. Collenette, representing the Council of this Society, and the Hon. Secretary. After breakfast the visitors, joined by several members of this Society, were shown over Castle Cornet by Miss E. F. Carey. Unfortunately the weather was showery and the Castle could not be as fully explored as it would have been in finer weather, but the visit was thoroughly appreciated.

At 2 p.m. the visitors and a large number of our members assembled at the Town Church. The Rev. J. Percy de Putron, Rector, read an interesting address on the history and architecture of the old Church, and afterwards conducted the party round to the various points of interest. The Registers and the Church Plate were shown in the vestries.

At 3.30 p.m. the party took the tram car for St. Sampson's Church. In the absence of the Rector (the Rev. W. Taylor) the Rev. J. Allon Pitt received the visitors. An account of the history and architecture of the Church was given by Major S. C. Curtis, who afterwards conducted the party round the Church, pointing out the remains of what was probably the original altar slab, now in the vestry, and also the ornaments discovered in the belfry two years before, and the place where they were found. The Pre-Reformation Chalice and the rest of the Church Plate, which was shown at the Rectory, also excited much interest; and the visitors

heartily congratulated Mr. Allon Pitt on the undoubted antiquity of these articles and of the Church in general. The exterior was closely examined; the "corbie steps" at the west end and the various styles of architecture in the building were duly noted, and it was regretted that Mr. W. H. Anger, the organist of the Church, who has made it his particular study, and has written an exhaustive account of it, could not be present to show the building more minutely. About 5 p.m. the party returned to Town, the visit to Ivy Castle having been abandoned on account of the rain setting in.

On Tuesday, August 3rd, the visitors, with about 20 members of this Society, proceeded in several brakes to visit the Churches of the upper parishes. The Rev. W. J. Ozanne, Rector of St. Martin's, showed the party over that Church. The sculptured menhir at the South Gate excited much interest and the South Porch was greatly admired.

The next Church visited was St. Andrew's. The Rector (the Rev. J. U. Pilbeam) was unfortunately absent on his holiday, but the Church was open and the party thoroughly examined it, and afterwards adjourned to "Rosenheim," where the stone troughs, arches and other relics of old Guernsey collected by the late General and Mrs. Huyshe were shown.

The Forest Church was the next to be visited. The Rev. E. F. Colman, the Rector, received the visitors and showed them all the interesting parts, and the plate was on view in the Church. This was greatly appreciated by the Clerical members of the Jersey party, who have much interesting Ecclesiastical plate in their charge in the Jersey parishes.

The time allotted had by now been much exceeded, and it was decided to omit the visit to Torteval Church. Having been entirely rebuilt in 1818 it does not contain much of interest, and the absence of the Rector (the Rev. R. H. Tourtel), on his holiday, would have deprived the intended visit of even what might have been an interesting description.

Lunch was taken at the Pleinmont Hotel and at 2.30 a move was made to the Church of St. Peter-in-the-Wood. The Rector (the Rev. H. W. Brock) conducted the party over the Church, pointing out the original doors and tracery of some of the windows. The Church was much admired, and the singular rise of the floor from the west end up to the Sanctuary was commented upon by the Archæological members.

The next Church visited was St. Saviour's. The party arrived at Sous l'Eglise and mounted by the steps, being

shown the meeting place of the Fief Gaillard by the Rector (the Rev. I. H. Bibby). In the Church Mr. S. C. Curtis read an account of the Rectory and architecture. The interesting Church plate and the Registers were also shown; and after the party had thoroughly examined the Church, an adjournment was made to the Rectory, where the Rector kindly entertained the whole of the visitors and the members of our Society to tea. The party left at 5.30 p.m. after expressing their hearty thanks to the Rector for making the visit to this Church so interesting and for his hospitality. It had been intended to visit the Côtel Church on the way back, but time did not permit and this was deferred till next day.

Wednesday, August 4th, was a quiet day. In the morning Mr. A. Collenette showed the visitors the treasures of the Guille-Allès Museum, and all were much impressed at the great care and pains which had been taken by the Honorary Curator in his labour of love in displaying the contents to the best advantage in the wholly inadequate and unsuitable space at his disposal.

The visitors who were interested in ancient documents were conducted over the Greffe by Miss E. F. Carey. The priceless Charters and the Manuscripts left by the late Sir Edgar MacCulloch were shown and the visit was much appreciated.

The Rev. H. G. de C. Stevens Guille had kindly invited the visitors to see his house and grounds at St. George, and it was decided to visit this place after the two remaining Churches of the Vale and the Côtel. At the former the Rev. S. N. H. Rawdon, the Curate in charge, described the Church in the unavoidable absence of the Rector (the Rev. F. W. S. Le Lièvre) and of Major S. C. Curtis, engaged on military duties. A halt on the way to the Côtel Church was made at La Pouquelaye, near Saumarez Park, to examine three-headed figure there. Various conjectures as to its origin were made, but no definite opinion was arrived at.

The Côtel Church was next visited, and as time pressed the call was necessarily hurried, but the visitors were much interested in the architecture of the Church, the frescoes on the wall of the north aisle, and the orderly care in which the fabric was kept.

At St. George the Rev. H. G. de C. Stevens Guille had provided a sumptuous tea, after which the pictures and treasures in the house, the heirlooms of generations of the Guille family, and the grounds and gardens were visited with much interest and pleasure, and after many thanks to Mr. Guille

for his kindness and hospitality the party returned to the hotel.

The evening of Wednesday was spent at the Guille-Allès Library listening to a most interesting account of the Chevauchée of St. Michel by Miss E. F. Carey, illustrated by lantern slides. The substance of the lecture appears elsewhere in these *Transactions*. At the close Dr. R. R. Marett, of Jersey, in proposing a vote of thanks to Miss Carey, remarked on the invaluable service she was rendering future generations in recording the old-time ceremonies and customs attending the Chevauchée. He mentioned that the custom of "beating the bounds" as the Chevauchée undoubtedly was, was in force at the present day in Jersey in a modified and modernized fashion, but without any of the picturesque forms it partook of in Guernsey. Mr. R. R. Lemprière, Vicomte of Jersey, seconded the vote of thanks in a happily worded speech, and this was passed with acclamation. The party broke up at 9.45.

Thursday, August 5th, was very wet and disappointing. The morning was taken up by a visit to the Lukis Museum. The papers of the Lukis family were on view and the objects of interest from the Dolmens were shown and explained by Lieut.-Col. T. W. M. de Guerin, who had specially returned for the purpose from his holiday in England. The general consensus of opinion among the visitors was that Guernsey was to be congratulated in possessing such priceless relics.

The excursion by boat to Herm had perforce to be abandoned owing to the rough weather, and the visitors spent the afternoon in various ways.

On Friday, August 6th, the visitors, with some twenty members of this Society, set out in motors for a drive, embracing practically the circuit of the Island, to visit the Dolmens under the guidance of Lieut.-Col. T. W. M. de Guérin. Dehus (Bordeaux), La Varde (l'Ancrese) and the newly-discovered Dolmen at l'Islet were visited before lunch which was taken at Grande Rocque Hotel. In the afternoon the Menhir, commonly called the "Witches' Finger," at Richmond (where the possible site of a small dolmen was also pointed out) the Trépied at the Catiaroc, and the Creux des Fées were visited, winding up with the Menhir in a field bordering the Paysans Road at St. Peter-in-the-Wood. The whole party was intensely interested in all they saw, and several of the Jersey visitors expressed their conviction that some of our Dolmens, more especially Dehus and the Creux des Fées, would repay a further exploration, and Colonel de

Guérin promised that steps would be taken to accomplish this in the near future. The weather, though threatening at times, kept fine and greatly enhanced the enjoyment of the day's excursion.

In the evening a soirée was held at the Guille-Allès Library, having for its chief attraction an exhibition of photographs of local antiquities by the Guernsey Photographic Society. Light refreshments were provided. During the evening Mr. R. R. Lemprière, Vicomte of Jersey, in a well-worded and humorous speech, thanked this Society for the arrangements made for entertaining the Société Jersiaise which had proved so successful. They would take back to Jersey many pleasant memories of all they had seen in Guernsey and of the various new friends they had made. One thing he could congratulate Guernsey on was their Dolmens. Those in Jersey had not received the same attention and exploration which ours had, and they must give their attention to a more systematic examination. In concluding he asked the Guernsey Society of Natural Science to accept a set of the publications of the Société Jersiaise for their Library. This much appreciated gift was accepted with acclamation. The richly-bound set of 12 volumes was on view during the evening. The party broke up soon after 10 o'clock.

The visitors returned to Jersey the next day (Saturday, August 7th), being seen off at the White Rock by several members of the Council, and all expressed themselves as charmed with the reception accorded them, and the very interesting time they had had.

On a later date, at a special Council Meeting of the Society, it was unanimously resolved that the Hon. Secretary should send in writing the thanks of the Society for the valuable gift of bound volumes of the publications of the Société Jersiaise, also formulating the hope that a representative party of this Society might pay a return visit to Jersey during the next year. This letter was duly despatched and was acknowledged by the Hon. Secretary of the Société Jersiaise expressing the great pleasure that a return visit would afford them, and saying they would do their best to show our members the interesting parts of Jersey in the same way as this Society had done to them in respect of Guernsey.

Later in August, on the 26th, another party from Jersey, which included most of those who had come earlier in the month, paid a short visit to Guernsey to carry out the excursion to Herm, which had had to be abandoned on the 5th

owing to rough weather. On arrival at the White Rock motor boats were waiting for the party, who, with several members of our Society, at once embarked for Herm. They were met by Count Lothair Blücher von Wahlstatt, the son of the lessee of the Island and, piloted by him, visited all the known Dolmens and Kists in the Island. The kindness of the Count in placing himself at the disposal of the party as guide and also his hospitality in providing for them a bounteous lunch in an island where the difficulties of obtaining supplies are obvious were greatly appreciated. The party returned to Guernsey about 5 o'clock, having had ideal weather for the excursion, and in the evening the visitors entertained some of the members of our Society at dinner at Old Government House Hotel. They returned to Jersey the next day.

It is hardly necessary to dwell on the advantages resulting to both Societies from such visits. Our insular position making social intercourse between the two Societies naturally difficult, the opportunity of exchanging ideas and of ascertaining the scientific efforts which are being made in each island render these visits especially valuable.

While the Jersey party were loud in their expressions of admiration for our Dolmens, we feel that our near neighbours have secured a great start over us in their Mousterian finds, belonging to ages compared with which the Dolmens are quite of modern date. We have not so far discovered in Guernsey any remains which can compare in world-wide interest with those which have been and are still being found at La Cotte at St. Brelade, and the most systematic investigation up to the present, except in a few sporadic instances, has not revealed any such treasures. We believe such exist in Guernsey (if in Jersey, why not here also?), and the exchange of ideas which takes place on visits such as these must make us all the more keen not to be outstripped by our sister Isle. It is to be hoped that at some not very distant date we shall come across finds similar to those now being brought to light in Jersey with so much skill and zeal, perhaps securing even more valuable information as to our Palæolithic ancestors and their ways of living, as also about the animals which flourished at the same period and supplied them with food.

The management of the Guille-Allès Library had kindly made the visitors honorary members of the Institution during their stay in Guernsey. This privilege was greatly appreciated by them, and due acknowledgment was made to the Management for their kindness.

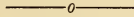
The following Members of the Société Jersiaise took part in the visit :--

Mr. R. R. Lemprière, Viscount of Jersey, Vice-President.	Mr. J. J. Payn,
Mrs. C. H. Robin,	Mr. François Le Cerf,
Miss P. L. Marett,	Mr. F. O. d'Auvergne,
Miss Emily L. Le Cornu,	Mr. F. P. Le Riche,
Miss T. Killick,	Mr. S. J. Nicolle,
Mr. H. N. Godfray,	Mr. Alexander Raworth,
Mr. Philip Aubin,	Mr. E. F. Le Cornu,
Mr. J. F. Giffard,	Mr. G. A. Piquet,
Mr. G. E. J. Crallan,	Mr. C. G. Le Bas,
Rev. J. A. Balleine,	Mr. E. Berteau,
Rev. G. P. Balleine,	Mr. T. R. Blampied,
Mr. G. T. Messervy,	Mr. F. J. Renouf,
Professor R. R. Marett,	Mr. F. P. Hacquoil,
Colonel J. Bichard,	Mr. H. J. Baal,
Mr. J. Sinel,	Mr. T. W. Attenborough,
Mr. P. A. Roissier.	Mr. E. T. Nicolle (Hon. Secretary).

THE EVOLUTION OF THE TOWN CHURCH.

BY S. CAREY CURTIS,

Associate of the Royal Institute of British Architects.



IN studying the various epochs of the building of our Town Church, one is forcibly reminded that it has no written history. No documents exist by which we can definitely assign a date to the commencement of the Church, and it is obvious to the most casual observer that the grand old Church was not the work of a few years, or the care of a few Architects or builders, in arriving at its present condition. None of these left any date on the walls or any written particulars of the work they undertook, with the exception of one date, which was found about a century ago, tradition says carved on a beam of oak hidden in the wall, and of which a cast in plaster may be seen over the door leading into the Vestries in the South East Aisle. The inscription runs "**Pan:mil:ccc:lxxvi:fat:faite,**" and I will show when I come to that portion of the Church, that this date bears the seal of authenticity.

The lack of History, written or handed down, was not of much moment in countries where the materials used did not partake of the refractory nature of our Granite. At the time when the greatest amount of Church building went on, the period when the larger portion of the Town Church was built, conditions of building were very different from now-a-days. An itinerant band or guild of craftsmen, generally connected with some religious community, with a head craftsman, or *αρχιτέκτων* to direct operations, used to travel over the country, putting up a nave here, adding to partly completed work there, or starting some new work, and everywhere leaving on their work some imprint of individuality in the form of peculiar shaped mouldings, crockets, or other mannerism, which enables us now, by studying these idiosyncrasies, to assign a definite date to any piece of work, and almost to say that this Church and that were built by the same

hands. This was only possible where the material used lent itself to elaborate work, such as the softer sedimentary stones or brick. But with our Granite, all idea of elaborate and intricate mouldings had to a large extent to be abandoned. Even the simplest chamfer or moulding represented an amount of labour quite out of proportion to the result obtained, and hence it was impracticable for the craftsman to, as it were, sign his work, as he could do in softer stone.

Still, by carefully examining the stone of which the Church is built, the manner of building the walls, the texture of the stone and the manner of handling it, one can divide the building into epochs, each having its special features. And by marshalling these various groups together, and studying small details of construction and design, one can in time deduce a considerable amount of useful information.

Thus on a careful examination of the windows at the East end, one notices that the centre window stands by itself as regards the three. The mouldings on this, simple as they are, are of quite a different pattern to those on the other two, which are similar. Thus one can deduce that the centre window was put up at a different period to the other two, which were probably put up together. This is borne out by two other pieces of evidence. First, the arcading of the interior was obviously carried out at the same time and by the same craftsmen. Second, the masonry is similar in the two outside parts, which are both in uncoursed rubble, but in the centre portion the walling is entirely of dressed and squared stones. So it is in other parts, and though we may not arrive at the date of building with any degree of certainty, we can certainly follow the sequence of events in the assembling of the various constituent parts of the Church.

The commencement of the many epochs of building operations which have resulted in the Church as we see it to-day is difficult to arrive at with any degree of certainty. It will suffice for our purpose (and there is nothing to prevent its being the actual case), if we take that our forefathers followed the rule, which prevails to the present day, and set up for themselves a rude chapel, simply of four walls and a roof of the type of the Chapel of St. Apolline, as a nucleus of a larger building, and that it was destined to be the Holy Place of the Church of the future. At the present day we find this is almost invariably the case, when for financial or other reasons it is necessary to put up a church piecemeal. The Sanctuary is built first, and later the nave and aisles, the original small building becoming the Choir and Chancel. So

might it well have been with the Town Church, and thus we may take it that the first part erected was the portion now used as the Chancel and Choir. (Fig. 1.)

Years went on, the small barn-like building was found not large enough to accommodate the increasing population, and little by little the original building was added to, first perhaps by adding a Nave, then Transepts, until the tiny Chapel had grown into the ideal shape of all Christian Churches, cruciform. Everything points to this, and we may be sure our ancestors were as devout in their fashion as the Church people of neighbouring countries. (Fig 2.)

Having arrived at a Church which had some attempt at proportion, it was an easy step to pass to ornamentation. The next part which appears to have been taken in hand was the crossing place of the Transepts with the main body of the church, and the congregation, or possibly a single member of it, decided to put up a Tower worthy of the Church, and this I think now happened, and whatever we may think of the rest of the building, I think we are all agreed that he or the congregation was eminently successful in their endeavours, and thanks to whoever built this, we are in possession of a Tower which would not disgrace any Cathedral. The builders of the Tower were also looking to the future, and in the building of it, anticipating in the extension on each side of both Chancel and Nave, they left in readiness for the replacing of the side walls by an arcade, large and well-proportioned pilasters on three out of four of the piers of the Tower from which the first arch of the arcading might spring. They did not carry this out on the fourth pier, that on the North-East, as, whether owing to accident or design, the original chancel was slightly wider than the Nave, and in order to allow for this it was necessary to align the outer wall of this part with the outer face of the pier, whereas all the other walls concerned had their centres corresponding with the centres of the Tower piers. These provisions of the builders of the period were carried out as far as the Chancel was concerned, and it is not at all unlikely that this work of extension and forming of two Chapels, one at each side of the original Chancel, was undertaken not very long after the building of the Tower. This was done in the conventional method, by building two aisles alongside the original building and opening communication between the three by replacing the erstwhile outside walls by an arcade and building buttresses on the outside to take the stresses set up by the thrust of the arches. The enlargement thus made is an admirable piece of work,

with its elegant and well-proportioned arcading, in contrast with that in the West Nave.

There the difference from the arcading at the Eastern end of the Church is most marked. The arches are of the most rude description and not the handiwork of a skilled craftsman. The jointing does not radiate but is irregular in its setting, and the general workmanship is very inferior to the arcading mentioned above. The arches themselves are clumsy and are not even symmetrical, and though quaint and characteristic of the times, one cannot help wishing that the design of the builders of the Tower had been carried out.

The stonework of the Tower itself is of very fine workmanship. Tradition relates that the whole was wrought in France, shipped over here and erected, and its appearance bears this out. Apparently also the facing of the Eastern Wall and the frame of the window came over at the same time. The stone is of the same kind, the coursing of the ashlar is similar, and the setting of the Eastern window of the Church is identical with the setting of the Eastern window in the Tower.

We have now arrived at the plan as shown on Fig. 3, the cruciform church with two chapels on either side of the matrix, so to speak, of the whole building. Next came the continuation of these two chapels in their logical sequence on each side of the nave as in Fig. 4. The Church again has a symmetrical shape, but the cruciform building has given way to an irregular oblong. The entrance was still at the west, and the ornamental West Entrance, which is far too little appreciated now, was put in at the same time, but the inconvenience of the principal entrance of the Church being in a very narrow street (there were houses standing within a few feet on the opposite side until they were pulled down not many years ago to make way for the New Market), led the congregation to seek another means of entering at a more convenient spot, and the Porch facing High Street was the result. Here again, as in the case of the Tower, they gave of their best, and spared no pains or expense to make it a worthy addition. This Porch was originally flat roofed, the parvise over being added later, as we shall see.

The next addition was to lengthen the South Transept and make a South aisle of it. The window was transferred from the place it occupied to the new end, and later this window was lowered at the cill level by about six feet, in order to give light to the seats under the galleries, which were later put up in this part. (See Plan 5.)

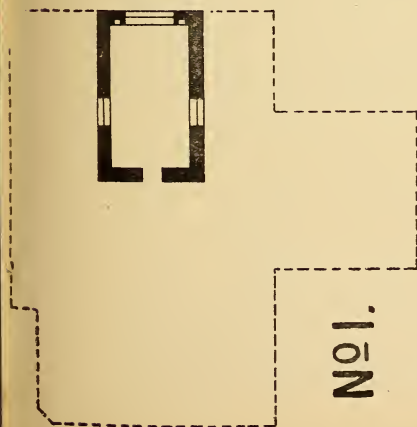
The last part of all to be built was the South-Eastern Aisle, which was carried out as in the case of the parts round the Tower, by piercing the side wall towards the East, and putting in the very fine arcading, the finest and loftiest we have in Guernsey, and adding an exterior buttress for strength. In this aisle we have, as I mentioned before, the only dated piece of work in the whole Church—1466. One may well say this date is not authentic, and it is impossible to gainsay this, but there is no reason at all to doubt this, as close to the door which now leads to the Vestries a piscina is built into the wall, still in a very fine state of preservation, which makes it certain that it was erected before the Reformation. And in connection with this, we should be grateful to those in authority at the time of the Reformation for having walled up this and other features, and thus preserving them to the present day, instead of ruthlessly destroying them as they might well have done. Would that it had been possible to have had the figures which at one time occupied the corbels in the North Porch preserved in similar fashion.

At the same time as, or soon after the completion of the South Aisle, the Parvise and the staircase leading to it, and also the other leading to the Tower, were built. The use of the Parvise as a kind of workroom, and even in some cases as a sleeping apartment for those engaged about the Church, is common to both England and France, and it was easily constructed by taking off the flat roof over the Porch and building on the walls already there, the roof being formed by continuing the slope of the main roof of the North Transept. The means of access to it was a more difficult affair. The space between the jamb of the large window on the North wall and the wall of the Porch was not wide enough to allow the smallest staircase, so in order to gain space, the builders cut down the width of the window by one light, or perhaps two, as the tracery is all modern and we cannot definitely ascertain the width of each light as originally spaced, and built the staircase in the angle, also piercing the wall and inserting lancet windows to give light to it. This cutting down of the window on one side only has brought the centre of the window away from the centre of the gable, and has also altered the proportions for the worse. The other staircase was a comparatively simple piece of work and calls for no comment. (See No. 6.)

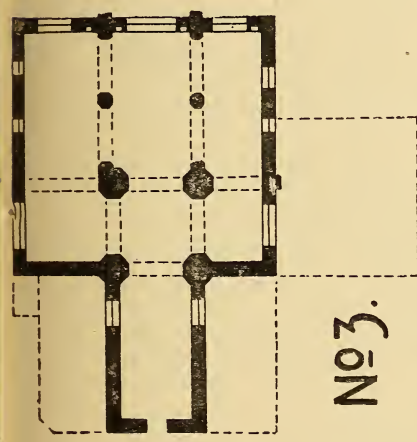
This completes the Church as we see it to-day, with the exception of the modern Vestries, which call for no remark,

and in dealing with each detail of the building I have been careful not to hazard any guess at the date. I consider any such definite fixing of certain dates as too vague to work at theories on.

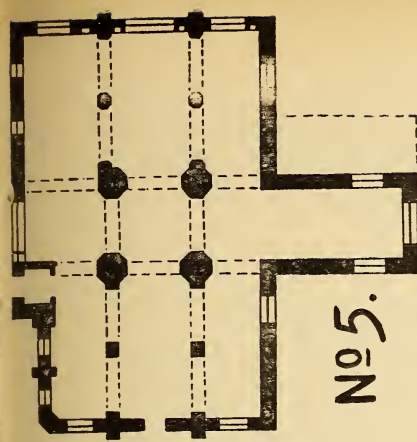
I understand the late Rev. G. E. Lee, F.S.A., always considered the Church was built between the years 1300-1400. I consider myself a much longer period elapsed from the time of the founding of the little fishermen's Chapel to the building of the South-Eastern Aisle, and I should give 300 or 400 years as the period taken for the completion of the building.



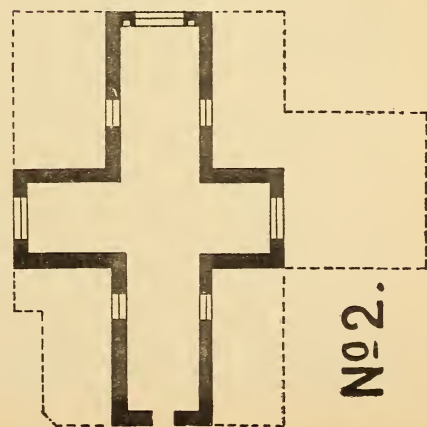
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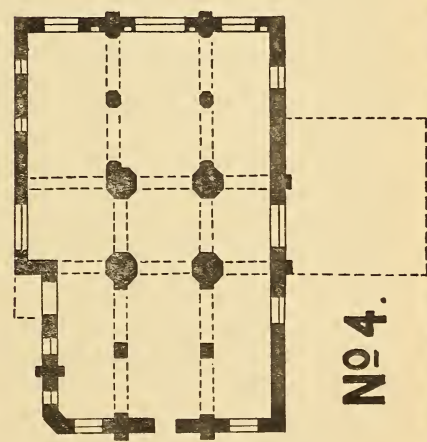
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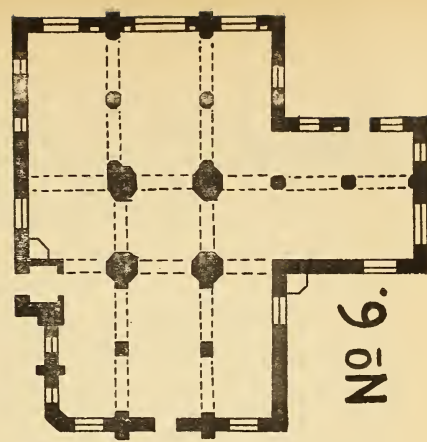
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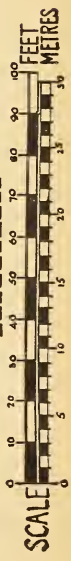
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No. 4.



No. 6.



THE WEATHER OF THE BAILIWICK IN 1915, WITH TABLE OF THE SARK AND ALDERNEY RAINFALL.

BY BASIL T. ROWSWELL.

INTRODUCTORY: A WORD ON RAINFALL.

ANOTHER year of big rainfall has to be recorded, which though not so heavy in the aggregate as were the excessive totals of 1910 and 1912, is remarkable for this, that two successive years (1914 and 1915) have been unusually wet, whereas each of the above mentioned years was followed by a twelvemonth that departed but slightly from the normal.

Since rainfall observations were begun at Les Blanchés, Guernsey, in 1894, the wettest year previous to 1910 was 1903 with a total of 38·20 in. The total for 1910 was over 45 in. and three times already since then the amount has exceeded 40 inches.

That rainfall has undoubtedly been increasing in amount in recent years was pointed out in the report published in the 1914 *Transactions*. It was stated there (page 140) that the normal at Les Blanchés for the decade 1894-1903 was 33·95 in., while for the next decade, viz., 1904-1913, it had gone up to 35·18 in. If we now divide the twenty-two years, 1894-1915, into two series of eleven years and strike an average, the result is still more surprising, for we get 34·16 in. as the normal yearly fall for 1894-1904 and 36·14 in. for 1905-1915.

Taking the average for the twenty-two years as being 35·15 in., an examination of the series shows a much greater tendency to consecutive dry than wet years. For instance 1898 to 1902 and again 1905 to 1909 (five years in each case) were, on the above basis, periods of decided drought. The latter interval, which immediately preceded the first of the recent big totals, was especially dry, for its wettest year (1905) only totalled 33·83 in., while 1908 with 24·33 in. is the driest year on record at Les Blanchés. The wet years on the other hand have occurred more or less sporadically as shewn by the dates; 1894 (38·00 in.), 1897 (37·27 in.), 1903 (38·20 in.), 1904 (36·24 in.), 1910 (45·54 in.), 1912 (45·55 in.), 1914 (40·07 in.), 1915 (41·82 in.). No explanation can be given to account for the irregularity in the swings of the rainfall pendulum, but the interesting point to note is the unusually big totals of the last four of the wet years quoted.

Science has sought long and so far in vain for regularly recurring cycles of weather—cycles, for instance, of wet and dry years that might be foretold with certainty. Apart from this failure the belief grows on me—there being no proof to the contrary—that, however irregularly, the rainfall balances itself from time to time—that periods of drought are followed by periods of wet, and *vice versa*; that deficiencies are in due course made up and surpluses lost. These fluctuations above and below par may become excessive and the balance of nature on occasions take years to redress itself. But that it does so and that series of wet and dry years are not indicative of a changing climate but rather of a process of compensation seems to me more probable than not. The great difficulty appears to be that of solving the normal quantity for any district or place, for the most that can be claimed for averages is that the figures merely represent the normal of the particular years dealt with—nothing more if nothing less.

To theorise on a balancing of the weather in the element of rainfall, years must be studied collectively, not individually. Twenty-two years (the period covered by the Les Blanchés records) is far too short an interval in which to hope to discover the truth or otherwise of the theory. But in support of the argument and on the supposition that the two series of five years each referred to above, viz., 1898-1902 and 1905-1909, were really periods of marked rainfall shortage, we are brought face to face with the fact that four of the succeeding six years (1910-1915) have had abnormally big totals as compared with any in either of the so-called dry intervals. Do we see in this a restoring to par of a long deficient rainfall? It appears to me we do and at that I must leave it, merely giving, for reference, the annual totals since 1898. These are split up into three series of six years each in order to show (in confirmation of what has been said) the remarkable rise in the average figures in the last six years.

1898-1903. in.	1904-1909. in.	1910-1915. in.
32·86	36·24	45·54
31·59	33·83	34·74
34·74	31·79	45·55
26·60	32·49	35·09
32·66	24·33	40·07
38·20	32·32	41·82
<hr/>	<hr/>	<hr/>
Average 32·77	31·83	40·47

THE WEATHER OF 1915: INTRODUCTORY.

Before going into details of the weather of 1915 I have to report a change in the location of the Sark rain gauge. Capt. Henry, who had very kindly given permission for the placing of the gauge on his property at La Vallée du Creux in January, 1906, and, with Mrs. Henry, had taken charge of the station ever since, having come to reside at Guernsey, the gauge has been transferred to Pointe Robert where it is now in charge of the Lighthouse Keepers, Messrs. Warder, Kaye and McCarthy, who most kindly undertook to continue the work began at Vallée du Creux. The gauge was moved at the end of October and is about a quarter of a mile N.E. of the old site at an elevation of 215 feet above mean sea level against 320 feet at Vallée du Creux.

The year 1915 was cold as well as abnormally wet. At Les Blanchés (Guernsey) its mean temperature, 50·5 deg., is 0·6 deg. below the average of the twenty years 1894-1913, while the total rainfall, 41·82 in., is no less than 7·25 in. in excess. The twenty-two years' records at this station shew but two colder and two wetter years. The colder years were 1895 and 1909 with mean temperatures respectively of 50·0 and 50·2 deg.; the wetter years were 1910 and 1912 the rainfalls of which totalled 45·54 and 45·55 in.

All through the twelvemonth (1915) the accumulated rainfall was in excess of the normal, while December's aggregate, 8·39 in., is the second biggest monthly total at Les Blanchés of the twenty-two years. The wettest months as compared with the normal were January, February, July and December—the driest, March and June.

Temperature was variable, but cold spells predominated and warm intervals were of short duration. For instance all through March and April temperature was low, July was very cold and so again was October and November. The better part of May, September and December on the other hand were warm, but both in May and December a cold week sandwiched itself in between more genial conditions.

Unlike recent years which have given us some severe, and a good many, thunderstorms, 1915 was marked, at any rate as far as Guernsey is concerned, by an almost entire absence of electrical disturbances. Two big downpours of rain occurred in July, the height of the thunderstorm season, but neither was associated with the passage of electrical storms. For the rest, although we had our full quota of gales, fog and sunless days with much of other unpleasant weather, sunshine, one of those good and acceptable things of

which apparently we can hardly get too much, was deplorably deficient in amount.

THE WEATHER OF 1915: GENERAL REMARKS.

The year opened with a very low barometer and a fierce gale of wind from the south. It was an extremely rough New Year's day followed at night by heavy hail showers. In rainfall the year began well, following valiantly in the steps of a very wet December, and though January did not rival its predecessor, it started the twelvemonth on its course with a surplus of precipitation it never lost. In this direction January was ably seconded by February. Together the two months gave a total of 9·89 in. at Les Blanchés against a normal of 5·48 in. At Sark the total was 7·12 in. and at Alderney 8·07 in.

In writing of the big rainfall of January and February 1915, December 1914 should be included in the remarks, for the three months embrace an exceedingly well-marked spell of excessively wet weather. At Guernsey (Les Blanchés) a total of no less than 18·18 in. was measured in the three months against a normal of 9·67 in. At Sark the amount was 14·37 in. and at Alderney 16·76 in. Gales, hail, thunder and lightning were accompaniments of the long succession of depressions responsible for all this rainfall. From Alderney Mr. Picot reported "terrific hail squalls" for January 7th; "thunderstorm early morn" of the 8th; "thunderstorm during night" (of 30th to 31st); and for February 13th; "fierce hurricane afternoon and night." At Les Blanchés January 18th was the first day without rainfall since December 3rd—forty-five consecutive rain days. In all the islands, however, one week of dry weather was experienced in the midst of the three months' deluge. From January 23rd to 29th no precipitation was measured at any of the three stations, while towards the end of February improving conditions began developing.

Four of the depressions gave us a very low barometer. On December 13th the mercury dropped to 28·7 in., but as regards wind, the (to use an Americanism) "low" gave nothing worse than a strong south breeze. On the evening of New Year's day the barometer was down to 28·8 in. with fresh west breeze following a strong south gale in the morning. Two days later the barometer was reading 28·8 in. again, this time with nothing more severe in the way of wind than a gentle west to north-west breeze. The fourth low reading occurred on Saturday, Feb. 13th, and once more 28·8 in. was

registered. A violent storm of wind accompanied the depression, a strong to whole west gale raging during the afternoon and evening. Mr. Picot's comment on the fierceness of this gale at Alderney has already been given.

February, though not a cold month, gave a rather big number of hoar frosts. During the night from the 25th to the 26th the sheltered thermometer dropped to 28·2 deg. This was the first air frost, as also the coldest night, of the 1914-15 winter at Les Blanchés. March gave three additional air frosts—the sharpest, on the 20th, sent the glass down to 29·1 deg.—and as late as April 1st a reading of 31·0 deg. was registered.

As compared with the average the weather was colder in March than in either of the two preceding months. Actually there was very little difference in the means of the three months, but a marked tendency to cold in March, especially at the end, when snow fell, checked the normal seasonal advance with the result that the month with a mean temperature of 43·2 deg. proved 0·1 deg. colder than January! Rainfall was slight all through and, at the three stations, there was no precipitation from the 12th to the 20th. A strong biting east wind prevailed from the 26th to the 29th. On the 30th from one to two inches of snow fell at Guernsey and Sark, and for a few hours the countryside looked extremely cold and wintry. Alderney escaped the visitation altogether. This tardy and short-lived shower was the only snowfall of the winter.

A remarkably fine fireball travelling from S.E. to N.W. passed right overhead at 7·47 p.m. on Sunday, March 28th. It burst just after crossing our zenith. Its light effect was brilliant, but considerably marred by bright moonlight. Mr. Denning, of Bristol, the great authority on meteors, described the phenomenon at length in *Nature* of April 8th, and said it must have been a fine sight in the Channel Islands. The body, he wrote, described a path from Vire in France to a spot sixty miles south of the Eddystone, passing directly over Jersey on the way.

April, similarly to March, was cold and dry with much northerly wind. Most of the rain fell in the first week which was also exceedingly gloomy. The 3rd, 5th (Easter Monday) and 6th were sunless, and Easter Sunday itself was practically without sunshine. With the advent of May we entered upon a couple of months of remarkably unstable temperature with, on the whole, continued deficient rainfall. Of May I find this observation recorded: "A month of unusually variable tem-

perature. Very sudden and big changes from warm to cold and *vice versa* all through the period." The biggest change of all occurred in the last week when after rising to a mean of 62·6 deg. on the 26th, temperature dropped to 48·3 deg. on the 28th. In the two days the mean thus fell no less than 14·3 deg., and from being 9·7 deg. above the normal on the 26th was 5·9 deg. below on the 28th. The fluctuations in June were not nearly so pronounced as in May and in the latter half temperature steadied considerably.

In rainfall May was in no way deficient up to the 21st, after which date none fell at any of the three stations, and we began the driest spell of the year. Taking the islands collectively this dry interval may be considered as having begun on May 21st and ended on June 19th. It was broken into in the first week of June by the inappreciable amounts of 0·13 in. at Guernsey (Les Blanchés), 0·07 in. at Sark and 0·04 in. at Alderney and it included the only absolute drought recorded in 1915, particulars of which are given at the end of this paper. In this latter, however, Sark was not privileged to participate!

At the end of April and the beginning of May some very foggy weather was experienced. In the *Evening Press* of May 1st the following paragraph appeared:—

"The Platte Fougère fog signal [first used in 1909] ceased sounding at 7.35 this morning, having run continuously for 37 hours. This is the longest non-stop run on record."

The same issue of the *Evening Press* also contained the following:—

"The South-Western steamer which left here on Thursday morning [April 29th] for Jersey had a most unenviable experience. She did not reach Jersey until just before 6 o'clock last evening [Friday] having been all night and all yesterday in the thick fog which enveloped the islands."

It was on Friday, April 30th, also, that the Russian steamer *Trio* struck a reef near the Hanois Lighthouse in the dense fog. Fortunately the boat sustained no serious damage and the following afternoon was safely towed from her perilous position by local pilots with pilot launches, and brought into St. Peter-Port harbour.

The longest day of the year was sunless. In the thirty-two years, 1884-1915, one other sunless June 21st only is noted in the Les Blanchés records. This was in 1906. The longest day of 1915 was also very wet; for twenty-two years at least nothing like so much rain had fallen on this day at Les Blanchés, where the amount totalled 0·53 in.

A sharp thunderstorm visited Alderney during the early morning hours of Sunday, June 27th. At Le Huret station Mr. Picot's gauge collected 0·73 in. of water. The other islands escaped this storm, but some distant lightning and thunder was noted at Guernsey at 3 a.m.

July was a wretchedly cold month with very big rainfall. The west wind in summer is, speaking comparatively, cold, and throughout July the wind was persistently westerly and frequently fresh or strong in force. Two warm days occurred in the first week, the 3rd and 4th. The latter, both as regards maximum temperature (78·2 deg.) and mean (66·3 deg., normal 58·4 deg.) was the warmest day of the year, but onwards from the 6th temperature was continuously and decidedly low. The month's mean temperature was 58·2 deg. against a normal of 60·1 deg. The rainfall total was excessive, but only because of two heavy downpours, neither associated with thunderstorms, for comparatively little rain fell anywhere until the 14th. These two heavy falls with the month's total are detailed below.

Date.	Les Blchs., Guernsey. in.	Sark. in.	Alderney. in.
July 16	1·08	1·23	0·83
„ 22	1·37	1·05	0·91
	4·29	3·63	3·72

Both at Sark and Alderney it was the wettest July since observations were begun in 1906; at Les Blanchés (Guernsey) we have to go back to 1894 to find a wetter July. In that year, however, the total reached the abnormally big figure of 6·50 in. ! July's normal is 1·90 in.

Sark reported a distant thunderstorm on the evening of July 4th, the very hot day already referred to, and a shower fell in that island which yielded 0·08 in. of water in the gauge at Captain Henry's.

The weather of August divided itself into a rainy first fortnight followed by some very sunny days and no rain at any of the stations from the 15th to the 28th inclusive. No summer heat blaze was experienced, temperature on the whole varying but slightly from the normal. This was the warmest month of the year.

September was wet as regards its total rainfall—at Sark and Alderney, similarly to July, it was the wettest month of the name of the ten years 1906-1915. This fact notwithstanding September was on the whole an exceedingly pleasant and sunny period. The big rainfall was owing to several heavy

falls, not to continuously unsettled weather by any means, and what is noteworthy is that in every case one or both of the smaller islands had decidedly more rain than Guernsey (Les Blanches) on these wet days as shewn below:—

Date.	Les Blchs., Guernsey. in.	Sark. in.	Alderney. in.
September 1	0·46	0·69	0·37
„ 23	0·38	0·79	0·79
„ 24	0 98	1·11	1·29
„ 28	0·31	0·16	0·75

Month's total.....	3·05	3·66	3·88
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Of two of these rainfalls at Alderney the *Evening Press* of the 27th said :

“Over three-quarters of an inch of rain fell on Thursday afternoon [September 23] causing much inconvenience to picnickers and fishing parties. On Friday [Sept. 24] a deluge fell about noon, the Huret rain gauge recording over 1½ inches of rainfall.”

In my own notes at Les Blanches under date of September 24th the following observation is recorded: “At 11.30 a.m. rain set in and fell heavily until 2.30, so heavily in fact that no less than 0·92 in. came down in the three hours.” This amount in itself represents more than a week and a half's normal September rainfall. For nearly three weeks, however, previous to this, the weather had been very dry. From the 3rd to the 22nd only one rain day was recorded at Les Blanches and this interval gave us in addition some delightfully sunny days and the warmest week of the year. For six consecutive days (6th-11th) sunshine was unbroken from morning to night and some other days a little later were nearly as good.

In temperature September began and ended with a very cold week, but from the 9th to the 23rd what can be described as a heat wave of moderate intensity prevailed, and it included the warm week mentioned above. This was September 12th to 18th (Sunday to Saturday) the mean temperature of which, 62·7 deg., was 4·8 deg. above the normal. Some of the cold days at the opening and finish of the month were most unusually cold for the time of year—so unusual indeed as to be worth putting on record, for the 29th and 30th are the two coldest September days at Les Blanches of the twenty-two years, 1894-1915.

Date.	Max. deg.	Min. deg.	Mean. deg.	Normal. deg.	Diff'ce. deg.
September 2	59·9	49·1	52·0	59·7	— 7·7
„ 3	58·2	45·6	52·0	59·3	— 7·3
„ 29	54·9	46·7	49·2	57·3	— 8·1
„ 30	55·2	44·3	48·9	57·6	— 8·7

Northerly winds were blowing on these days with broken sunshine.

It was in the early hours of September 3rd that the only thunderstorm of the year came to us. It prevailed from 3 to 5 o'clock and was not at all severe. Rain and a heavy dash of hail fell. In character the storm was far more of the winter than the summer type. Alderney, too, was involved in the disturbance, for Mr. Picot's report for the 2nd said: "Thunderstorms off island afternoon and night."

The cold weather prevailing at the end of September ran on, with the exception of one warm week (October 10th to 16th), to the end of November. Throughout October and up to November 12th the cold was never pronounced, but on the 13th a very well-marked spell of low temperature set in which lasted until the 29th. The sharpest day (the 28th), with a minimum temperature of 30·4 deg. and a mean of 34·3 deg., was actually 13·2 deg. colder than the normal, and it was by 2·1 deg. the coldest November day at Les Blanchés of the twenty-two year period 1894-1915. The general degree of cold may be gauged by this, that the mean of the week ending November 20th (41·9 deg.) was 5·6 deg. below the normal, and that of the following week (November 21st-27th, 42·1 deg.) 4·9 deg. below. The month as a whole with a mean temperature of 44·9 deg. was 3·8 deg. colder than the average and was the coldest November here since 1896 which had a mean of 44·8 deg.

In rainfall the first three weeks of October were very deficient. To that date the month was far from upholding its character of the wettest month of the year, but on the 23rd the winter rains may be said to have set in in earnest. That day's rainfall was heavy everywhere, but particularly so at Sark where Capt. Henry measured 1·23 in. This, with a similar fall on July 16th, was Sark's biggest daily fall for the year. On the last day of October another big cyclonic downpour gave Alderney its wettest day where no less than 1·32 in. of rain fell.

The unsettled weather spread into November and culminated with the passage of an extremely deep disturbance on the 12th and 13th. The depression sent our barometer down to 28·5 in. (apparently the lowest reading of the barometer at Guernsey since December 29th, 1899) and gave us a gale of unusual violence—from S.W. on Friday the 12th and from N. the following day. Towards noon of the 13th, during the height of the N. gale, the ss. *St. Malo* (1,228 tons gross), of the Compagnie Générale Transatlantique, turned

turtle off the north of Guernsey and plunged to the bottom, the whole crew of 24 unfortunately perishing.

A change in the distribution of atmospheric pressure frequently follows an extra violent convulsion, and it was so now, for at first northerly and then easterly winds became established and we experienced the first real cold snap of the winter, with drier at any rate, if not more sunny weather. This burst of cold, which ended suddenly on the 29th, has been referred to already, so we pass on with the remark that on the 20th the barometer was at the very high level of 30·7 in. In the same month and with only a week and a day separating the readings, occurred the lowest and highest barometer of the year, and the range was no less than 2·2 in.

That rare phenomenon, a lunar rainbow, was seen on the evening of November 12th. It was faint, incomplete also, and remained visible but a short time. This is the first moon bow noted since October 31st, 1911.

December, like its namesake in 1914, was again a month of extraordinary rainfall; constant and big fluctuations of the barometer showed the atmosphere to be in a very disturbed condition, gales and strong winds were frequent—a fierce S.W. to W. gale in the early morning of the 1st did considerable damage to greenhouse and other property at the Forest—and temperature ranged high. Very few cold days were experienced, and the month as a whole with a mean of 48·3 deg. (normal 45·8 deg.) was actually 3·4 deg. warmer than November. Really, in the matter of temperature, the two months changed places, November giving us December's readings and December those usual in November.

At the three stations it was the wettest December on record—at Sark and Alderney of the ten years 1906-1915, at Guernsey (Les Blanchés) of the twenty-two years 1894-1915. The amounts were: Sark 7·86 in., Alderney 10·18 in., Guernsey 8·39 in. The total for Guernsey makes December, 1915, the second wettest *month* at Les Blanchés of the twenty-two years mentioned above. The first half of the month was decidedly more unsettled and wet than the last half, indeed precipitation was slight from the 16th to the 21st when low pressure systems again drew nearer and rainfall once more increased in amount.

December 5th to the 11th (Sun. to Sat.) was the wettest week of the year. At Les Blanchés, where no less than 3·56 in. of rain fell in the seven days, the amount was 2·58 in. in excess of the normal. At the Guille-Allès Library station the week's rain totalled 3·78 in.; at Sark the Lighthouse

Keepers measured 3·08 in., and at Alderney Mr. Picot's total was 4·21 in.

Underground water, which began to flow in November, rose rapidly in December, and at the end of the month the spring at Les Blanchés was higher than it had been in December for three years. A plentiful supply of water during 1916 seems assured to us.

In conclusion I have again pleasure in acknowledging the valued help in the cause of rainfall observation rendered by Capt. Henry at Sark and Mr. Picot at Alderney. As already stated Capt. Henry having come to reside at Guernsey the gauge has been transferred from Vallée du Creux to Pointe Robert where it is now in charge of the guardians of the Lighthouse who most kindly undertook to continue the work carried on with such untiring zeal and devotion by Capt. Henry for close upon ten years.

ABSOLUTE DROUGHTS IN 1915.

An Absolute Drought, as defined in *British Rainfall*, is "a period of *more than* 14 consecutive days, no one of which is a rain day."

SARK.

No Absolute Drought was registered, but two rainless periods of 14 days each occurred, viz.: June 7 to 20 and Aug. 15 to 28.

ALDERNEY.

June 6 to 21 16 days.

GUERNSEY (LES BLANCHÉS).

June 5 to 19 15 days.

PARTIAL DROUGHTS IN 1915.

A Partial Drought, as defined in *British Rainfall*, is "a period of *more than* 28 consecutive days, the mean rainfall of which does not exceed ·01 in. per day."

SARK.

May 20 to June 20 = 32 days. Rainfall ·21 in. on 5 days.

ALDERNEY.

May 14 to June 22 = 40 days. Rainfall ·33 in. on 6 days.

GUERNSEY (LES BLANCHÉS).

May 20 to June 20 = 32 days. Rainfall ·25 in. on 6 days.

RAIN SPELLS IN 1915.

A Rain Spell, as defined in *British Rainfall*, is "a period of *more than* 14 consecutive days, every one of which is a rain day."

SARK.

Nov. 28 to Dec. 15 = 18 days. Total rainfall, 5·87 in.

ALDERNEY.

Nov. 28 to Dec. 12 = 15 days. Total rainfall, 6·87 in.

GUERNSEY (LES BLANCHES).

Jan. 1 to 17 = 17 days. Total rainfall, 3·68 in.

Nov. 28 to Dec. 15 = 18 ,, ,, ,, 6·61 in.

ONE-INCH RAINFALLS IN 1915.

Sark.	Alderney.	Guernsey (Les B.)
July 16 ... 1·23 in.	Sept. 24 ... 1·29 in.	July 16 ... 1·08 in.
„ 22 ... 1·05 „	Oct. 31 ... 1·32 „	„ 22 ... 1·37 in.
Sept. 24 ... 1·11 „	Dec. 2 ... 1·04 „	Dec. 2 ... 1·01 in.
Oct. 23 ... 1·23 „	„ 9 ... 1·15 „	

SARK AND ALDERNEY RAINFALL, 1915.

Months.	Monthly Totals.		Rain Days.		Heaviest Daily Rainfall.		Falls of 0·50 in. and above.	
	Sark.	Alderney.	Sark.	Alderney.	Sark.	Alderney.	Sark.	Alderney.
	in.	in.			in.	in.		
January . . .	3·97	4·35	21	17	0·56 20th	0·84 22nd	2	2
February ..	3·15	3·72	18	16	0·45 1st	0·75 8th	—	2
March	0·73	0·67	11	9	0·14 23rd & 30th	0·18 22nd	—	—
April	2·00	1·63	15	12	0·50 6th	0·45 6th	1	—
May	1·50	1·44	10	9	0·30 3rd	0·35 12th	—	—
June	0·59	1·46	8	8	0·41 21st	0·73 26th	—	1
July	3·63	3·72	11	10	1·23 16th	0·91 22nd	3	3
August	1·24	1·45	8	7	0·31 29th	0·58 31st	—	1
September ..	3·66	3·88	9	10	1·11 24th	1·29 24th	3	3
October	5·35	5·56	16	17	1·23 23rd	1·32 31st	5	4
November ..	2·98	3·88	17	18	0·92 11th	0·98 3rd	2	3
December ..	7·86	10·18	26	27	0·97 2nd	1·15 9th	4	8
The Year ..	36·66	41·94	170	160			20	27

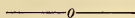
Totals and Heaviest Rainfall for the Ten Years, 1906-1915.

1906.....	26·07	28·63	161	168	1·16 June 28th	0·85 Nov. 8th	10	15
1907.....	26·15	28·84	178	188	1·11 Nov. 25th	1·15 Oct. 1st	6	7
1908.....	18·51	24·02	155	150	0·62 Feb. 16th	1·04 Apl. 24th	1	6
1909.....	26·13	32·99	146	157	1·38 June 3rd	1·55 Nov. 15th	14	15
1910.....	39·04	?	203	?	1·84 Oct. 13th	?	14	?
1911.....	26·71	29·12	152	158	1·40 Oct. 27th	1·21 Nov. 11th	10	14
1912.....	37·87	39·04	197	197	1·35 Aug. 12th	1·30 Aug. 12th	22	22
1913.....	27·09	31·66	173	172	0·95 Dec. 5th	2·00 Sept. 17th	10	11
1914.....	35·61	37·11	187	172	1·18 Dec. 9th	1·36 Dec. 9th	15	18
1915.....	36·66	41·94	170	160	1·23 July 16th & Oct. 23rd	1·32 Oct. 31st	20	27
Averages ..	29·98	32·59	172·2	169·1			12·2	15

NOTE.—The Sark averages are based on ten, and the Alderney on nine years' observations.

Where not otherwise definitely named, the Station implied in the references to Guernsey in the preceding paper is that at Les Blanchés, St. Martin's, which was established in January, 1894.

NOTE

OF THE OCCURRENCE, IN OUR WATERS, OF THE
FISH "BOUGUE" (*Box vulgaris*, Cuvier).

A specimen of the Bougue, taken by local fishermen, found its way into our market early in October, where it was seen and secured by Capt. R. McCrea, by whom it was presented to the Museum of the Guille-Allès Library.

The fish is so rare in the Channel that it had not yet been seen by any local fishermen, nor was it known by the fish-vendors and by Mr. Sinel, of Jersey, who has a large acquaintance with the fishes visiting our part of the Channel.

The fish is common in the Mediterranean and it is known to stretch across the Atlantio to the West Indies.

This specimen was taken in company with Horse-Mackerel, but specimens have been taken in company with Grey Mulletts off Falmouth.

Although found in the works on British Fishes, it is taken only very rarely.

The fish is classified with the Sea Breams (*Sparidæ*). It is known under the following common names: Bougue, Box, Boops, and Ox-eye.

NOTE

ON THE IMPLEMENTS REPORTED AS UNCERTAIN IN
THE STATEMENT OF FINDS DURING THE YEAR 1913.

During the summer of 1913 I found, in the 25 feet beach, a flint which I hesitated to term an implement or artifact and I called it an "Eolith." Since then having purchased a copy of Dr. Albert Churchward's "The Origin and Evolution of Primitive Man," I found the copy of my implement given as an illustration of one of the implements in use by the Pygmies of Central Africa.

I saw no reason why the implement used in one place should be less an implement found in another, and I obtained the consent of our Council to provide an illustration for the *Transactions*. I at once communicated with the author of the work and obtained his consent to reproduce his illustration of the same type of implement.

According to Dr. Churchward this is a Pygmy implement, and further, this author holds the opinion that the Human Race originated in the Pygmy Race which, he considers, was the departure from the Ape forms.

Dr. Churchward also considers that the Pygmies overran the continent of Europe. I felt some hesitation in accepting as an implement a flint found in the 25 feet beach on account of the great age of that deposit, which we suppose is of early Pleistocene date, but this author places the advent of the first Pygmies as far back as 2,000,000 years, hence the find is not in any way a difficulty to him. I therefore place this find in our *Transactions*, leaving the disputable points for the future.

I take the opportunity of illustrating the implement of the same type found by Mr. Morgan, derived from the glacial clay.



No. 2.—Pre-Chellian Implement found by Mr. J. Morgan (from the clay).

No. 1.—Pre-Chellian Implement found in the raised beach at Fort Le Marchant.



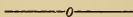
No. 3.—Pigmy Implement figured in "The Origin and Evolution of Primitive Man," by Dr. Albert Churchward, and reproduced by permission to show how nearly No. 1 approaches it in form.



Vale Church, showing Priory, about 1860.

THE CHEVAUCHÉE DE ST. MICHEL.

BY EDITH F. CAREY.



IT may be as well to begin this account of the Chevauchée de St. Michel in Guernsey by a few words on the Channel Islands as a group.

Politically and historically they belong to England, but geographically and racially they are, as Victor Hugo described them, "Morceaux de France, tombés à la Mer et ramassés par l'Angleterre." Each Island has a curious individuality of its own, its special fauna and flora, its own patois, its distinctive group of family names; but one feature they all have in common—they all possess megalithic remains, and old records and place-names reveal an extraordinary number of dolmens and menhirs existing in early times, although the greater part of them have now, unfortunately, been destroyed.

Early in the eleventh century Guernsey was divided into two great fiefs, belonging respectively to the Néels de St. Sauveur, Vicomtes of Le Contentin, and to Anchetil, Vicomte du Bessin. In 1048 the Néels rebelled against their Duke, and their lands in Guernsey were forfeited and given to the Abbey



Site of Meeting of Cour St. Michel in Câtel Churchyard.

of Marmoutiers, while the lands of Anchetil were divided in nearly equal portions between the Abbey of Mont St. Michel in Normandy, and the descendants of Anchetil, the Earls of Chester; the lands held by the Abbey being called Fief St. Michel and those held by the Earls Fief le Comte. Portions of these great fiefs were subsequently subdivided among various Norman nobles; but after our separation from Normandy in the reign of King John the lands held by those Norman laymen who took the part of Philip Augustus escheated to the English Crown, thus forming our present Fief le Roi, but the Norman Abbots retained their lands until the dissolution of the Monasteries in the 15th Century and, ecclesiastically, all the Islands remained in the Diocese of Coutances until the reign of Queen Elizabeth.

That the Procession of which I am about to speak was more or less confined to the boundaries of these various fiefs must be my excuse for dwelling on these apparently irrelevant details.

The Court of the Priory of St. Michel-du-Valle was only second to the Royal Court in importance and it retained its jurisdiction in the Island until 1862. Its headquarters were in the district where most of our dolmens were situated, and where our earliest Missionaries concentrated their energies in stamping out paganism. It consisted of a Seneschal, eleven Vavasseurs, six Sergeants, a Greffier, four Prevôts or Sheriffs, eight Bordiers, and a Wand bearer or Porte-lance.⁽¹⁾ As the Fief extended from the extreme North-East to the South-West corner of the Island, for the convenience of its tenants its Court was held alternately at the Vale Priory, south of the Vale Church and below the site of what was once a Logan stone—where the Chief Pleas were held and the cases of the Northern residents were decided, and in the Cemetery of St. Mary de Castro in the centre of the Island, on a spot marked by some flat stones bordering the north wall of the Churchyard, where the causes of the tenants of the Southern portions of the fief were pleaded.

One peculiar prerogative of this feudal Court was the triennial inspection and keeping in order of the Chemin-du-Roi or King's Highway throughout the Island. This ceremony of inspection was known as the Chevauchée de St. Michel, and survived until the year 1837.

The order of it was as follows:—

Before each occasion of the Chevauchée the Court of St. Michel, at the Chief Pleas held on Easter Monday, settled such preliminaries as fixing the date on which the procession was to

(1) The titles of the Vavasseurs were:—Gervaise, Capelle, Soulaire, Maresq. Grent Maison, Garis, Béhon, Agenor, Piquenie, La Moye, Houët. The titles of the Sergeants:—Gaillet, Paison, de la Lande, Roque des Roques, Bourg, l'Ange. The titles of the Bordiers: Béquereel, Rebour, Renost, Ricard, Nant, Salmon, Infart, Scarabie.

be held, regulating the costume to be worn by the pions⁽¹⁾ or footmen in attendance on the Court, and other matters. The earliest official record we have of the prescribed dress is dated May 24th, 1768. when Mr. Henry Budd was Senechal. It reads as follows:—

“A black cap (Calotte) with a red ribbon at the back, a ruffled shirt (une chemise à Manchette), with black ribbon wristbands and a black ribbon round the neck, white breeches with red ribbons tied round the knee, white stockings, and red ribbons on their wands.”

Exactly the same costume was appointed for the Chevauchée of 1786, and a very similar one for the Chevauchées of the 9th June, 1813, the 8th of June, 1825, and 31st May, 1837, with the following alterations:—In 1813 a white handkerchief was to be worn round the neck above the white frilled shirt, and also a sort of white smock frock or “habit rond” bound with scarlet ribbon was worn outside the shirt. In 1825 the “habit rond” was transformed into a white waistcoat or “gilet blanc” bordered with red ribbon and the same costume was ordained for 1837. This may I think be taken as an indication that black, white and red were the colours associated with this ceremony from time immemorial.

I will now detail the observances which took place on the 9th of June, 1813, as it is the oldest Chevauchée of which contemporary records and descriptions exist, and is the most likely to have adhered literally to the ancient order of procedure.

On the 27th of May, 1813, before Thomas Falla, Esq., Seneschal of the Court and jurisdiction of St. Michel, and the Vavassors of the said Court. “The Court being to-day assembled to regulate the order to be pursued on Wednesday, the 9th of June proximo” (the day appointed by the Court for the Chevauchée of His Majesty to pass) having decreed the dress of the pions, went on to ordain that “Messieurs les prévôts of the Court are ordered to warn all those who are obliged to assist at the said Chevauchée to find themselves with their swords⁽²⁾,



Pion's Wand.

(1) Pion from Latin *pedone*, a footman—cf. a *pawn* at chess.

(2) The three members of the Chevauchée who wore swords were the King's Sheriff, the Seneschal of St. Michel, and the Porte-Lance. Probably in mediæval days they wore full armour, while the other mounted officials would have worn semi-armour and the unmounted men would have worn fustian, with pikes, and probably bows of ribbon with the symbolic colours,

their pions, and their horses, the aforesaid 9th of June, at seven⁽³⁾ o'clock in the morning at the Court at St. Michel, according to ancient custom, in default of appearance to be subject to such penalties as it shall please the Court to award. And also shall Monsieur le Gouverneur be duly warned, and Thomas Falla, Esq., Senechal, and Messrs. Jean Mahy and Nicholas Moullin, Vavassors, are nominated by the Court to form a Committee so as to take the necessary measure to regulate the conformity of the said act concerning the dress of the pions. (signed) Jean Ozanne, Greffier."



Vale Church and Priory in 1817.

On the above day, conformably to the said Act, all the pions, dressed in the prescribed costume, met at seven o'clock in the morning at the Court of St. Michel, and there also assembled the officers of the Royal Court and the Vavassors who were all mounted on horseback. The King's Officers and the Senechal of St. Michel each had two pions, one on each side of his bridle rein, the Vavassors were only entitled to one. They began with a short inspection and a good breakfast on the

(3) In the 16th century records of the Chevauchée no definite time of meeting is mentioned, the Court being simply appointed "au temps et lieu accoutumée." The first mention of a stated hour being in the record for 30th May, 1608, when the Court was summoned to meet at six a.m. This continued to be the hour until 1660 when five o'clock was fixed, and this earlier hour lasted until 1705. Then, for many years, the Chevauchée was adjourned, and when it finally did take place in 1759, seven o'clock was fixed; in 1768 the Court reverted to six o'clock, and in 1813, as we see, reverted to seven a.m. as the hour for the rendez-vous.

emplacement east of the Vale Church. After breakfast the members of the *cortège*, with their swords at their sides, mounted their horses, the Greffier of the Court said the customary prayer and the Seneschal read the proclamation, and then they started in the following order :—

The Sheriff of the Vale on horseback with his pion walking, then the King's Sheriff with two pions at his bridle rein, then the three Sheriffs of the Court of St. Michel, called respectively the Sheriffs of Grand Moûtier, of Petit Moûtier and of Rozel, each with a pion at his bridle rein ; behind them came in the following order, the Officers of the Royal Court, namely, the King's Sergeant, the King's Greffier, the King's Procureur (or Attorney General), the King's Comptroller (or Solicitor General), and the King's Receiver, all mounted, and each with two pions walking at his bridle reins. Then came the Lance-bearer and his two pions, the Greffier and the Seneschal of the Court of St. Michel with their respective pions, and finally the Vavasseurs of the Court of St. Michel, each with one pion. Whilst on the march the five Sheriffs carried by turns a white wand in the following order :—The Sheriff of the Vale from the Vale Church to the end of the Grand Pont, the King's Sheriff from the end of the Grand Pont as far as the Forest (that being the limit of Fief le Roi), the Sheriff of Grand Moûtier from the Forest to the Grand Moulins (or King's Mills), the Sheriff of Petit Moûtier from the King's Mills to the Douit des Landes du Marché, and the Sheriff of Rozel from the last mentioned place to the Vale. As each Sheriff approached his respective fief he carried the wand and rode in front of the procession whilst his own domain was being traversed. During the procession the Lance-bearer carried a wand of eleven and a quarter feet long, and any obstacles this wand encountered—stones, branches, débris, etc.,—had to be cleared away and the proprietor fined, which helped to defray the day's expenses.

From time immemorial the especial and recognised privilege of the pions—who were chosen for their good looks—was that of kissing every woman they met, whether gentle or simple, married or single, Governor's wife or labourer's daughter, the only restriction being that only one pion was allowed to kiss the same lady. This privilege was, of course, invariably exercised.

After leaving the Court the procession entered the Braye du Valle and there the Seneschal freed the pions from their attendance on the bridle reins and gave them authority to embrace any woman they might meet, recommending good behaviour, and directing them to join their Cavaliers at the Hougue à la Perre. The route followed was through the Braye by an old roadway now closed, bordered by sea-walls and terminating at the Rue du Vidcocq, then through La Rue des Mares Pelées

to Sohier, Les Landes, and along La Rue des Marais, where they came out on La Grande Rue and passed between La Mare Sansonnet and Bordeaux Harbour. They then went through another road now closed up, south of the Rocque Barrée, and then to Les Bordages across Le Grand Pont to the Ronde Cheminée and thence to the Hougue à la Perre. One halting place was at a small menhir, now destroyed, called La Pierre Pointue, which was situated at Les Monts on the boundaries of the Fief d'Anneville. There formerly existed a Cross, La Croix des Monts, in its immediate vicinity. Round this stone the procession passed, from East to West, and the pions danced.

At Hougue à la Perre they entered Fief le Roi, and at the sound of a bugle the pions rejoined the bridle reins of their Cavaliers, and they were there met by His Majesty's Representative the Governor, with his Staff, the Bailiff of Guernsey, and various Island gentlemen. In 1813 the Governor, Sir John Doyle, had decorated his horses with red ribbons in honour of the Chevauchée.

The whole cavalcade then moved on, preceded by the band of the town regiment who also met them on the boundaries of the Royal fief. These musicians were dressed in long white smocks, or, as the local paper described them, "revêtus d'un surplis en forme de chemise,"⁽¹⁾ and in large straw hats with turned down brims. This very unmilitary costume must, I think, have been traditionally associated with the Chevauchée as it is quite unlike all the uniforms of that date worn by our local Militia; it may have been a survival of some ancient, perhaps rustic, possibly priestly, band of minstrels and musicians. Six of our local cavalry or dragoons brought up the rear and thus augmented they marched through the Pollet into High Street, arriving at the Church of St. Peter-Port at noon.

At the west door of the Church stood a round table, covered with a white table cloth and supplied with bread and wine. Here the King's Sheriff and the King's Sergeant dismounted and the rest of the Cavalcade made a tour round the table taking refreshments from the hands of these two King's Officers as they did so. This old offering of bread and wine may have been a feudal due voluntarily incurred by the King in gratitude for having his highway kept in repair, but more probably it was a survival of some primitive festival once held on this spot. For just opposite this spot once stood the Fontaine St. Pierre and next to it once stood an ancient stone marking the boundaries of the Fief owned by the Abbot of Marmoutiers. On this stone the Vavasseurs of this feudal Court used to call over the names of the Villeins at their triennial meetings. Probably the circular tour, which in later times was made round the table, originally was made round the stone.

(1) *Le Miroir Politique*, 10me Juin, 1813.

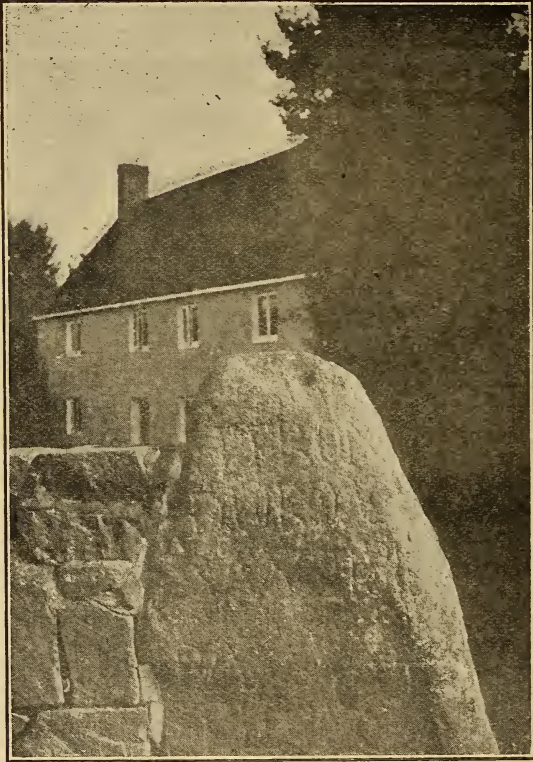
During this interval the band played serenades and marches, the bugles then sounded the retreat and the Cavalcade proceeded through Berthelot Street to the College Fields, and, passing through the Grange, they reached the Gravées, where His Excellency took his leave. This spot was once the site of a menhir—or Longue Roque in local parlance—which has long since been destroyed. They then went on by Petite Marche to the St. Martin's Road, as far as the ancient manor of Ville-au-Roi, one of the oldest houses in the Island. The arched stone entrance of the old avenue was tastefully decorated with flags and arches of flowers with a crown in the centre, and on one of the arches the motto "Vive la Chevauchée" was displayed. Here, according to old Manorial custom, the party was gratuitously regaled with milk. In the days of William the Conqueror Hugh de Rosel held large tracts of land—called Fief Rosel—from Ranulph, son of Anchetil Vicomte de Bessin; among these lands were two fiefs (both called Rosel), in Guernsey, and a Fief Rosel in Jersey. The Ville au Roi was the western boundary of the larger of the two Guernsey fiefs, and this dole of milk, which was of immemorial antiquity, may also have been a subsidy from the Seigneur de Rosel to the Abbot of Mont St. Michel for keeping his roads in repair, or it may have had to do with primitive rites in connection with a Tolmen or Pierre Percée which, although destroyed, still gives its name to the neighbouring estate. Here the bandsmen left them and the procession then moved on towards the southern parishes, the pions proceeding to Le Bourg at the Forest by way of Les Câches, and the horsemen of the party riding to Jerbourg to a district called Feugré, from the bracken or fougère which still covers it. This is situated just below where is now Doyle's Column and where the old earthwork or Castle of Jerbourg once stood. They halted at a stone, now destroyed, which stood north of a well which still remains. It was a flat slab of rock about a yard long by two feet broad, standing on either a stone pillar or on rough masonry, and raised about two feet from the ground. It probably was once a boundary of the Fief de Jerbourg, and quite near there stood La Croix de Jerbourg. ⁽¹⁾

From Jerbourg the Cavalcade rejoined the Pions at Le Bourg, opposite the Forest Church, and here the ritual dance was performed as before. Sir Edgar MacCulloch (Guernsey Folklore, p. 127) states that on this spot an upright stone, called La Roque des Fées, once stood, but that it was destroyed when the road was widened. Another stone, distinguished by its

NOTE (1). The *Gazette de Guernesey*, 11th June, 1825, says:—

"A Jerbourg, où il y avait dit-on autrefois un autel des Druides, pour manifester le mépris qu'inspirent restes d'idolatrie, ils executaient—à ce qu'on assure—dans les premiers tems sur ce pretendu autel, une cérémonie qui nous rapelle l'expédient auquel Gulliver eut recours pour étieindre les flammes qui embrassaient le palais de l'empereur de Lilliput."

cup-markings, is now built into the wall at Le Bourg. It was originally used as a mounting stone and is known as the "Perron du Roi," this name being rudely incised on it. This was once the limits of the Royal Fief. From this stone members of the Chevauchée who had dismounted were supposed to regain their saddles, and an Ordonnance of the Royal Court dated 1828 ⁽¹⁾ points out that it had been moved from its original



Perron du Roi.

position, on the opposite side of the road, and recommends that it should be replaced and kept to the former use as a "montoir."

On leaving the Forest Parish they moved on by Les Brulots, and passing the site of the original Church of Torteval arrived at a house called the Chateau des Pezeries at Pleinmont where a marquee was erected, and cold meats and wine were provided for the horsemen. The pions had their repast seated on the grass on a circular grass plateau which had, by ancient

(1) Recueil d'Ordonnances, 11, p. 355.

use, been especially hollowed out for them and is still known as "La Table des Pions." On this plateau, tradition says, fairies dance. From Pleinmont they traversed the old Chemin du Roi, passing the Roque Poisson and the Sablons until they reached Perelle Bay, and there, in a little field called the Biloterie, right on the sea-shore, stood a small boulder, about two feet high, which has now entirely disappeared under a mass of shingle. It must have been another boundary stone, as it stood just on the edge of Fief St. Michel, where it touches Fief le Comte; near by must have stood the Croix de Lihou, which was also situated on the sea-shore. Round this stone the Chevauchée had to march in solemn procession before they resumed their journey.

The procession then traversed the Mont Saint or Holy Hill, still consecrated to the Fairies in the popular mind, passing *en route* the old house called Les Jenemies. At the door of this house stood a small boulder about two feet high and two feet round, which was also used as a mounting stone. By immemorial custom this stone, on the approach of the Chevauchée, had to be rolled inside the building. Nearly opposite this house once stood La Croix Jenemie. The Chevauchée then proceeded under the granite promontory known as the "Roque où Le Coq Chante" and its next halt was at the Grande Moulins or King's Mills. On their arrival the Mill was put in motion and the Miller came out with a plate in each hand, one containing wheat flour which had at that instant been ground by the Mill. The Miller then placed himself on a large flat stone which stood in the courtyard in front of the Mill and the procession made a tour round him. When this Mill changed hands in 1908 the contract stipulated that the future proprietors were "tenus de remplir tous et tels servitudes auquels le dit Moulin est tenu et assujetté toutes les fois que la Chevauchée de Sa Majeste Court, et ce comme d'anciennete." (1)

From this contract we learn that the Mill itself was situated on the boundaries of Fiefs St. Michel and Groignet. This stone therefore must have formerly been a boundary stone and its sanctity may be inferred from the fact that, though it quite blocked the way of carts coming up to the door, nevertheless, flat though it was, no cart might go over it, but had to back round it to discharge its freight.

The procession then proceeded by St. George, the Haye du Puits, Saumarez, Les Landes du Marché (2) and the Clos-du-Valle, and made their final halt originally at the Court-house of St. Michel, but in later days at the neighbouring farm-house of the Cognon, where they were again rejoined by the Governor,

(1) Contract in Greffe.

(2) Somewhere near this spot once stood a certain stone, on which, so the Assize Roll of 1299 tells us, one Robert Le Marchant "longtemps au service du Roi" stood to read a certain Proclamation, and from this stone he was thrown down by John de Vivier.

Bailiff, and some of the principal residents; a sumptuous dinner took place, the Greffier made a concluding prayer, and the ceremony was concluded.

Needless to say, these obviously irrelevant customs provoked much criticism from dispassionate observers. The Rev. Thomas Le Marchant, in his "Approbation et Animadversion des Lois," written in the middle of the 17th Century, complains of the unsatisfactory nature of the institution for keeping the roads in repair. He justly pointed out, (1) 1st—That the public roads should be inspected at least twice a year instead of once in three years; 2nd—That the inspection should take place in March or September during the bad weather, instead of in May or June when they were looking their best; 3rd—That exactly the same route was always followed and many roads, and even the entire Parish of St. Andrew's, were never visited at all. 4th—That such an inspection was surely the business of the Bailiff and Jurats of the Royal Court, and not of an inferior Court which did not even confine itself to its own fief, but traversed the whole Island from one end to the other, levying fines on persons not in its jurisdiction and insisting on the reparation of roads far beyond the limits of its own territory. He concluded by saying that "Toute cette cavalcade (ou plustost mascarade) se fait tout en un jour, depuis une extremité de l'Isle jusques à l'autre, et par conséquent fort à la legère, en tant mesure que la pluspart du dit jour se passe en ostentations, menues collations par le chemin, visitation des fers de leurs chevaux et conte des cloux d'iceux, tournoyements à l'entour de certaines pierres, et autres telles singeries."

The custom, here alluded to, of counting the nails in their horses' shoes seems to have disappeared in later days. It may have had reference to the old superstition, recorded by Culpepper, that the fern *Botrychium lunaria*—popularly known as Moonwort—would "unshoe such harses as tread upon it" as it has been proved that this fern, although now extinct, was once found in the Island.(2)

In trying to unravel the origin and history of a ceremony which was, as far as its details are concerned, exclusively confined to the Island of Guernsey, we discover that the Abbots of St. Michel claimed the prerogative of holding the Chevauchée from the earliest times. For in the Assize Roll of 1309(3) the Abbot declared "that at the end of eyre(4) he ought to cause the rod of the Lord the King to be carried throughout all the highways of his fee of the Vale to search whether any encroachments shall have been made there. And he ought to cause those encroachments to be fined and to take the fines thereof, and so his

(1) Tome 1, p. 88.

(2) *Flora of Guernsey* by E. D. Marquand, p. 212.

(3) Special publication of the Société Jersiaise, p. 48.

(4) *Eyre*—"The itinerant assize of the Judges."

predecessors were wont to do from ancient times. And he answers freely therein and puts himself upon the jury of the country, but he cannot show any Royal grant made to him therein, nor that it was allowed elsewhere in the Court of the Lord the King, but only that he says they were so used from ancient times."

The date of 1309 proves that the theory put forward by many of our historians, that this Chevauchée was derived from the Corpus Christi festival, is incorrect, as the Corpus Christi procession was not instituted until 1261, nor generally enforced until early in the 14th Century, whereas we see that in 1309 the Chevauchée was regarded as an institution dating from "ancient times." Also, the earliest official notices of the Chevauchée prove that in the 16th and early 17th Centuries the ceremony invariably took place on a *Monday*, whereas the festival of Corpus Christi has always been held on a *Thursday*.

The books of the Court of St. Michel do not seem to have been officially kept until 1507, the greater part of them are now to be found in the Greffe of our Royal Court. The earliest notice of the Chevauchée I have come across in these records is dated 26th April, 1530, when, at the Chief Pleas of the Court held after Easter, it is ordained that the Chevauchée shall take place "le prochain lundy d'après le jor St. Nichollas en moys de May prochain." This St. Nicholas, who is no longer to be found in the Roman Breviary, was a Swedish Saint whose festival was kept either on the 6th or the 9th of May; so that the Chevauchée was then apparently originally held about a fortnight earlier than in later years—for in 1536 it is ordained to be held "le lundy de la my May si le temps est convenable." The change in the date might possibly be due to the change in the calendar.

From 1599 upwards the last Monday in May seems to have been the generally recognized date, and it took place regularly every three years until 1644, when the Civil War, in which the Islands were deeply involved, was in progress, and we find that the Chevauchée was obliged to be postponed, at the request of the Lieutenant-Governor, owing to the danger incurred in passing along the roads exposed to the fire of the enemy; and this state of things lasted until 1657. Again after 1676 the Chevauchée was held very irregularly, being continually put off for various reasons, the absence of the Governor, the request of the King's Receiver, etc., and now, when it did take place, we find that it no longer was fixed exclusively on a Monday, but on any convenient day, either in the last week in May or the first week in June. In the 18th Century it was also very often put off on such excuse as war with France, scarcity of grain, the number of alien immigrants in the Island, the disinclination of the members, or the expenses, which had to be defrayed out of the Crown revenues.

At different times we find that various Receiver Generals of His Majesty's rents, as loyal Crown officials, tried to eliminate this drain on their Royal Master's purse. As early as 1439 John Phylippe, Receiver of the King's rents, was cited to appear before Denis Le Marchant, Senechal of the Court of St. Michel, to explain his neglect in providing various dinners which the King, as Seigneur of the Royal Court, owed his Commissioners and officials, especially those during the course of the Chevauchée. The old deed from which I quote describes them as follows: When starting from the door of the Vale Priory there should be "du pain et du vin abondament et honnestement servis;" at the door of the Church of St. Peter Port there should be provided "une table ronde, mise, fournie et garnie bien et honnestement de doublier, pain et vin," also on arrival at "les portes de pleinmont" there should be "du pain et a boire;" and on the return of the Chevauchée to the said Priory they were entitled to have a "disner bien et honnestement tous ensemble es depens et coustages de nôtre dit Seigneur."

The case was argued before the Court of St. Michel on the 9th July, 1439, and by "un bon et loyal serment de douze prud'hommes de la dit paroisse de St. Michel du Valle"—who, of course, found it more profitable to agree with the Abbot on the spot than with the King in the offing—unanimously decided that His Majesty owed these repasts "de droit et d'ancienne coustume."⁽¹⁾

As a matter of fact, in the Royal Extente or Rent Roll of 1331 these meals were not included in the list of dues owed by the King to his subjects. On the contrary it is there stated that the Abbot owed the Royal Court "trois dîners ou repas, au Baillif, au Clerq, au Prevost, et au Bedel avec trois chevaux et deux garçons de coutume ancienne," and although the Chevauchée is not mentioned by name, this clause undoubtedly refers to it, as the significant proviso is made that due notice should be given to the Abbot by the King's Sheriff, and that a Saturday should intervene between the notice and the feast, "pour achapter les vitailles pour le dit disner"—which points to the Abbot's feast being a movable one, whereas the Court of Chief Pleas, after which the King's dinners are always given, is held at a certain fixed date. Thus it is evident that the Norman Abbots with great astuteness had managed to transfer these expenses from their own shoulders to those of an English King to whom they owed no allegiance.

An analysis of these different customs discloses various layers or strata built up by successive stages of civilisation.

Beginning at the top we find its latest and most obvious development, the inspection of the roads and the due mainten-

(1) This judgment was ratified by a decree of the Royal Court dated 19th May, 1572. (Jugements et Records, 134 A. Guernsey Greffe).

ance of the King's Highway. A little deeper down we come to the feasting and the dancing at various points, all originally connected with boundary stones, along the route.

No actual record of the dances danced at the Chevauchée has come down to us, but the one traditional dance connected with all our old festivals and merry makings has always been the one known as "A mon beau Laurier." where the dancers join hands and whirl round, curtsy, and kiss a central object—in the later days either a man or a woman—but perhaps originally either a sacred stone or a primeval altar, or indeed a symbolic deity, waiting (in the person of the victim) to be sacrificed at the conclusion of the dance.

It is worth noting that each of these halting places was consecrated in later days either by a wayside cross or a Christian Church, for the earliest missionaries invariably raised the symbols of their worship on spots already consecrated to earlier divinities. From the fact that our first missionaries seem to have settled at the Vale and St. Sampson's and there built the earliest of our chapels, it is probable that this end of island was the centre of the primitive population, and therefore the first to be cultivated. That the Chevauchée was an agricultural festival in one of its origins is evident from its route—which was practically all inland—and its traditional colours of red, white and black, colours which are those associated with the earth but never with the sea.

The kissing, which was the recognised privilege of the pions—and is the only evidence we have of the participation of women in the original rite—seems to point to a survival of some of the old orgiastic spring festivals which were conducive to the fertility and therefore to the prosperity of the flocks and herds of primitive man.⁽¹⁾ Thus it was a festival of life and not of death, the dolmens, the abodes of the dead, were left unvisited or passed unnoticed, for it was the month of May, of awakening life, when all Northern Nations tried to propitiate their deities into granting them good crops and fertile herds. From what stratum of symbolic ritual the rolling in of the stone at the door of Les Jenemies was derived it is impossible for me to say. But I think it is certain that the original festival was essentially a religious one, and this explains why the Church, in the persons of the Abbots of Mont St. Michel, took it under its especial patronage. And it is possible that it was under their auspices that the mounted officials were introduced, possibly as substitutes for the priestly leaders of an earlier day. Thus in process of time they insensibly transformed what was probably an orgiastic festival, marching in all the bravery of priestly magnificence to the shrines of ancient deities, into a formal procession held under the ægis of Church and State, for the purpose of ridding the King's highway of local obstructions.

(1) The custom at Jerbourg was probably another fertility charm.

THE SUNSHINE OF GUERNSEY FOR THE YEAR 1915.

BY MR. A. COLLENETTE, F.C.S.

THE year 1915 has finished with a deficit of 97·6 hours as compared with the average and a falling off of 71 hours as compared with 1914.

Two months, June and October, have totals smaller than those recorded during the 21 previous years.

The first month to show a large deficit was March, and May followed, each of these months being below their averages. The effect of this falling off was accentuated by a deficit in June of 71 hours, a deficit equal to the difference between 1915 and 1916.

The total sunshine from January 1st to June 31st was 850 hours (nearly) instead of 970 hours. July, August and September were sunny months with an excess over the average of 58 hours, but this was only half of the duration needed to redeem the year.

There is a peculiarity about the month of June brought out by the observations of the 22 years, which would not be evident but for them.

June works out to be less sunny than either May or July. Naturally it would be expected that inasmuch as July is the sunniest month of the year, the totals would grow from May to July evenly; they do not. May's average is 246 hours and July's 264, therefore June should possess an average total of 255 hours, whereas it is only 242 hours. It is therefore 13 hours less than its position in the curve demands.

As the calendar months are of unequal duration, it is necessary to make a correction for the purpose of comparison, and when this is done some of the deficiency of June disappears; for instance, the mean sunshine value of a May day is 8 hours, and as the average for May is 246 hours corrected by the subtraction of 8 hours, the total becomes 238 hours,

which compared with June's 30 days' total of 242 hours, places May in a lower position than June, which is as it should be. In the case of July we have a mean of nearly 9 hours per day, and if we subtract 9 hours from 264, we have 255 hours. Here June compares badly, for the latter part of June contains the longest days, and the apex of the sunshine curve should be found in the last week of June; but as the July sunshine is higher than that of June, even when corrected by the loss of a day, we have proof that June is for some cause, not yet ascertained, more cloudy than its position in the sunshine year warrants, as the year is arbitrarily divided into months of unequal duration. The same fault, due to our calendar, is shewn in the case of February. When the days of January, February and March are divided into three equal number of days, the apparent want of sunshine in February is accounted for. This year has given the least sunny June on record, having yielded 171 hours only instead of 242 hours, thus it is 71 hours below its average. The accumulated sunshine from January 1st fell below the average in April, and the curve remained below to the end of the year. In this comparison it may be stated that 70 per cent. of the departure from the average annual total was due to the deficit in June and the other 30 per cent. to that in other months. There are many other interesting features which can be ascertained by a study of Table I.

TABLE I.

DURATION OF SUNSHINE AND
Campbell-Stokes

Months	SUNSHINE.								
	Monthly Totals.		Nearest Hours.		Percentages of the Possible.			Mean Daily Values.	
	1915.	22 Years' Averages.	Highest on Record.	Lowest on Record.	1915.	22 Years' Averages.	Highest on Record.	1915.	22 Years' Averages.
	1	2	3	4	5	6	7	8	9
January	57·1	57·7	82	28	21	21	30	1·8	1·8
February ..	94·7	85·3	119	45	31	29	40	3·3	3·0
March	122·6	142·5	228	84	34	39	62	4·3	4·6
April	187·4	196·5	261	129	45	48	63	6·2	6·5
May	215·7	246·4	339	184	48	52	72	6·9	7·9
June	*171·6	242·0	314	192	34	51	65	5·7	7·9
July	272·3	264·1	382	187	54	54	78	8·9	8·5
August	252·7	240·0	326	186	56	54	74	8·1	7·8
September ..	215·4	187·8	269	107	55	51	72	7·0	6·2
October	*103·0	120·5	159	111	31	37	48	3·3	3·8
November ..	69·2	69·0	113	40	25	25	42	2·3	2·3
December ..	38·5	45·4	71	18	14	18	29	1·2	1·4
The Year ..	1800·2	1897·2	2215	1691	40	43	50	4·9	5·2
Highest	272·3	264·1	1899		56	54	78	8·9	8·5
Lowest	38·5	45·4		1913	14	18	29	1·2	1·4

* New Record.

TABLE I.
PREVALENCE OF CLOUD.
Instrument.

SUNSHINE.			Sunless Days.		Sunniest Days.			CLOUD.	
Differences of 1915 from Averages	Proportion of Monthly Totals to the Year's Total.				1915.		Previous Record.		
	Hours.	1915.	22 Years' Averages.	1915.	Averages.	Duration.		Day.	1915.	Averages.
10	11	12	13	14	15	16	17	18	19
- 0·6	3·2	3 0	9	10	8·5	31st	8·5	7·3	6·6
+ 9·4	4·7	4·4	4	6	8·4	23rd	9·8	6·5	6·2
- 19·9	6·7	7·5	4	3	11·2	20th	11·8	6·9	5·5
- 9·1	10·2	10·3	4	1	13·8	21st	13·6	5·4	4·8
- 30·7	12·2	13·0	5	1	14·0	23rd	14·7	6·0	4·6
- 71·0	10·7	12·8	4	1	13·8	17th	15·6	7·5	4·9
+ 8·2	15·1	13·9	2	0	15 1	2nd	15·5	5·1	4·6
+ 12·7	14·1	12·8	0	1	12·8	24th	13·9	4·5	4·6
+ 27·6	11·8	9·8	1	4	12·8	10th	12·8	4·5	4·6
- 17·5	5·6	6·4	5	4	9·5	12th	10·8	5·8	5·9
+ 0·2	3·7	3·6	7	7	7·3	17th	8·8	7·3	6·5
- 6·9	2·0	2·5	11	11	4·7	16th	7·9	7·7	5·7
- 97·6	100·0	100·0	56	46				6·2	—
- 71·1	15·0	13·9	11	11	15·1	July	15·6	7·7	6·6
+ 0·2	2·0	2·5	—	—	—	—	7·9	4·5	4·6

THE RAINFALL OF GUERNSEY FOR THE YEAR 1915.

BY MR. A. COLLENETTE, F.C.S.

THE year just finished has been a wet one, having exceeded the average by seven inches nearly.

The following months were wet: January, February, July and December. December doubled its average total, the three other months showing large excesses.

The months March, April, May and June together formed a dry group, which was 3 inches in deficit.

Owing to the excesses of January and February there was an excess from the very first of the year. At first the excess averaged about 2 inches, but December rainfall raised it to 6·6 inches.

At the end of February the excess was $3\frac{1}{2}$ inches, but March reduced that to 2 inches, and by the end of June the excess was reduced to half-an-inch. July then raised the excess to 3 inches, finally December doubled that figure.

December contributed one-fifth of the year's total, and only five days were without rain.

On six days the rainfall reached or exceeded 1 inch somewhere in the island, but no single station had more than five days. The heaviest of these falls occurred on the 22nd July, when St. Martin's Road measured 1·58 in.

As regards the distribution of rainfall over the island, St. Martin's Road has collected the largest total, 43·4 in., the Grange was next with 42·9 in., the Forest third with 42·5 in., the Rohais had 42 in., Les Blanchés 41·8 in. The West Stations were St. George, 38·8., Mont Saint, 35·7, and Cobo, proportionately completed, 37·3 inches. There is thus a difference of more than $6\frac{1}{2}$ inches between the wettest East Station and the driest West Station.

It is not necessary to lengthen this paper in discussing details, as the tables will supply much on which to comment on the abnormalities of the year.

One point, however, I wish to point out not without interest is the excessive rainfall of the last six years taken as

a period. These six years give a mean of 42 inches, or an excess of 5·2 inches over the average. The wet years producing this result are 1910 = 46·2 in., 1911 = 37·1 in., 1912 = 46·5 in., 1914 = 42·7 in., and 1915 = 43·4 in.

TABLE II.—The distribution of the rainfall over the island shows that the difference between the East and the West coasts of the island has been greater than the average by 2 inches, the West coast being only 85% of the rainfall of St. Martin's Road. The falling off of rainfall from the Town to the West, South-west, South and North is fully sustained by the work of the year. Mr. Rowswell's station at Les Blanchés, although less than a mile distant from the St. Martin's Road Station, has collected only 96% of St. Martin's Road fall. It is also interesting to note the falling off on the road to the West coast through the Grange and the Rohais. Dr. Carey's station in the Grange collected practically 43 inches, while Mr. Guilbert's station in the Rohais collected 42 inches. The Rev. Stevens Guille collected just under 39 inches, while Mr. H. Jones at Cobo is credited with 37 inches, and Mont Saint 35 inches.

TABLE I.
RAINFALL AT ST. MARTIN'S ROAD.

Inches.

Months.	Rainfall.			Greatest fall in one day.		Percentage of Monthly Falls to the year's total.		Wet Days.	
	Monthly Tls.		Difference between Cols. 1 and 2.	Amount.	Day.	1915.	73 years' Average.	1915.	73 years' Averages.
	1915.	73 years' Averages.							
January ..	4·71	3·95	+ 0·96	0·70	1st	10·8	10·2	24	19
February..	5·21	2·68	+ 0·53	0·72	16th	12·0	7·3	19	16
March	1·05	2·63	- 1·58	0·20	2nd	2·3	7·2	12	11
April	2·08	2·29	- 0·21	0·57	6th	4·6	6·3	17	14
May	1·89	2·06	- 0·17	0·46	3rd	4·2	5·6	9	11
June	0·97	2·05	- 1·02	0·50	21st	2·2	5·5	11	11
July	4·73	2·19	+ 2·56	1·58	23rd	10·9	5·9	12	11
August ..	1·37	2·44	- 1·07	0·23	29th	3·0	6·6	11	12
September	3·33	2·99	+ 0·34	0·95	24th	7·6	8·1	11	14
October ..	4·95	4·95	—	0·85	31st	11·4	13·4	18	19
November	4·16	4·47	- 0·31	0·98	1st	9·5	12·2	18	19
December	8·94	4·30	+ 4·64	1·02	2nd	20·5	11·7	26	19
The Year..	43·39	36·79	+ 6·60	1·58	July	100	100	188	176

TABLE II.
DISTRIBUTION OF RAINFALL OVER THE ISLAND.—1915.
Inches.

Months.	South & South East.			East.		West.			South West.	Whole Island
	St. Martin's Road.	Les Blanchés, St. Martin's.	Hautnez, Forest.	Villa Carey, Grange.	Colborne Villa, Rohais.	Mont Saint, St. Saviour's.	St. George, Castel.	Cobo, Castel.	Villiaze, Forest.	Means of all Stations.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January	4.71	4.78	4.79	4.46	4.28	3.44	3.89	4.05	4.62	4.34
February....	5.21	5.11	5.23	5.50	5.54	4.07	4.83	—	5.00	5.06
March	1.05	1.06	0.91	0.94	0.91	0.78	0.84	—	0.75	0.90
April	2.08	1.98	1.91	2.18	2.14	1.90	2.06	—	1.28	1.94
May	1.89	1.72	1.67	1.71	1.74	1.42	1.57	1.65	1.64	1.55
June	0.97	1.06	1.09	0.89	0.82	0.82	0.91	0.90	1.14	0.95
July	4.73	4.29	4.46	4.52	4.19	3.42	3.65	3.24	4.02	4.05
August	1.37	1.48	1.58	1.35	1.26	1.07	1.16	1.24	1.66	1.35
September ..	3.33	3.05	2.50	3.04	2.73	2.17	2.36	1.97	2.28	2.60
October	4.95	4.90	5.55	5.00	4.93	5.17	5.49	5.21	5.43	5.18
November...	4.16	4.00	4.08	4.36	4.46	3.55	4.00	3.07	3.85	3.94
December...	8.94	8.39	8.77	8.98	9.05	7.90	8.09	8.21	8.09	8.49
The Year...	43.39	41.82	42.54	42.93	42.05	35.71	38.85	—	39.76	40.35
Highest	8.94	8.39	8.77	8.98	9.05	7.90	8.09	8.21	8.09	—
Comparison	100	96	98	99	97	82	89	—	92	—
Observers...	Mr. A. Collenette.	Mr. B. Rowswell.	Waterworks Co.	Dr. F. Carey.	Mr. T. Guilbert.	Mr. S. Carey-Curtis.	Rev. H. Stevens Guille.	Mr. H. I. Jones.	Waterworks Co.	Means obtained from the monthly totals shown in the table.

WET DAYS.

The Year ..	188	189	197	179	214	163	210	—	198	—
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FALLS OF ONE INCH AND OVER IN ONE DAY.

July 16th ..	1.28	1.08	1.19	1.03	—	—	—	—	1.17	—
July 22nd ..	1.58	1.37	1.33	1.47	1.33	1.18	1.22	1.10	1.19	—
Sept. 21st ..	—	—	—	—	1.00	—	—	—	—	—
Nov. 11th ..	—	—	—	1.02	1.06	—	1.01	—	—	—
Nov. 30th ..	1.19	—	1.00	1.21	1.16	—	1.08	—	—	—
Dec. 2nd ..	1.02	1.01	1.02	1.05	1.03	1.02	—	1.10	—	—

Copies of previous Transactions of the Society can be obtained, price 2/6 each.

A limited number of sets from the commencement can be obtained at special prices on application to the Secretary.

GUERNSEY

SOCIETY OF NATURAL SCIENCE

AND

LOCAL RESEARCH.

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REPORT AND TRANSACTIONS

1916.

Guernsey :

RICHARD'S PRINTING & PUBLISHING COMPANY, LTD.,

BORDAGE STREET.

1917.

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SOCIETY OF NATURAL SCIENCE
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RICHARD'S PRINTING AND PUBLISHING COMPANY, LTD.
BORDAGE STREET.

1917.

COUNCIL FOR THE YEAR 1917.



PRESIDENT:

MISS A. L. MELLISH, M.A.

VICE-PRESIDENTS:

- 1895—MR. E. D. MARQUAND, A.L.S.
1897—MR. A. COLLENETTE, F.C.S.
1905—DR. J. AIKMAN.
1907—REV. W. CAMPBELL PENNEY, M.A.,
Principal of Elizabeth College.
1911—SIR WILLIAM CAREY, Bailiff.
1913—LIEUT.-COL. T. W. M. DE GUÉRIN.
1915—MR. F. L. TANNER, F.Z.S.

HON. SECRETARY:

1913—MR. S. C. CURTIS, A.R.I.B.A.

HON. TREASURER:

1911—MR. C. G. DE LA MARE.

COMMITTEE:

- 1899—MR. J. L. PITTS, F.S.A. (Normandy)
1909—MR. B. T. ROWSWELL.
1911—REV. F. E. LOWE, M.A.
1914—MR. R. METMAN.
1915—MISS C. M. DE GUÉRIN.
1916—MISS EDITH F. CAREY.

LIST OF MEMBERS (1916).



- 1891—Aikman, Dr., M.D., C.M., L.R.C.S. Queen's Road.
 1903—Aikman, Mrs. Queen's Road.
 1903—Aikman, Miss Queen's Road.
 1904—Allès, Mr. G. F. Gothic Cottage, St. Martin's.
 1911—Banks, Mr. T. B. High Street.
 1914—Best, Miss S. J. Brickfield Villa, St. Andrew's.
 1882—Bichard, Mr. T. M. Varendes, St. Andrew's.
 1904—Bishop, Mr. Julius, Jurat of the
 Royal Court Albecq, Cobo.
 1903—Bishop, Dr. Henry Draper, M.D.,
 M.R.C.S., L.R.C.P. Cambridge Park Road.
 1907—Bisson, Mr. T. The Laurels, Vale.
 1904—Blampied, Mr. C. B. La Fosse, St. Martin's.
 1910—Blicq, Mr. J. E. Melrose Villa, Brock Road.
 1914—Blicq, Mrs. J. E. Melrose Villa, Brock Road.
 1912—Blocaille, Mr. E. La Chaumette, Forest.
 1912—Bourde de la Rogerie, Rev. A. Burnt Lane.
 1911—Brownsey, Mr. J. Pollet.
 1889—Carey, Mr. F. Summerland, Mount Durand.
 1897—Carey, Miss E. The Elms, Cambridge Park.
 1908—Carey, Mr. T. W. Somerset Place, Queen's Road.
 1913—Carré, Miss Marjorie* Care of Ladies' College.
 1911—Carruthers, Dr. J. College Terrace.
 1907—Chalmers, Mr. A. L. Corbière, St. Pierre-du-Bois.
 1913—Clarke, Mr. F. J. Mount Durand.
 1912—Clarke, Mrs. F. J. Mount Durand.
 1914—Cohu, Mr. E. O. York Avenue.
 1913—Cohu, Rev. J. R. Aston Clinton Rectory, Tring.
 1882—Collenette, Mr. A., F.C.S. Brooklyn, Fort Road.
 1882—Collings, Col. A. H. Grange Road.
 1890—Collings, Miss M. B. 24, Saumarez Street.
 1912—Collings, Miss Amy 24, Saumarez Street.
 1882—Cole, Miss R. 39, Canichers.
 1906—Corbin, Dr. E. K., M.R.C.S. Saumarez Street.
 1908—Corbin, Miss R. Stanley Road.
 1912—Curtis, Major S. Carey, A.R.I.B.A. Le Mont Saint, St. Saviour's.
 1893—De Guérin, Lieut.-Col. T. W. M.,
 Jurat of the Royal Court Le Mont Durand, Mount Row.
 1893—De Guérin, Miss C. M. Le Mont Durand, Mount Row.
 1906—De Jersey, Colonel Grant Cambridge Park.
 1882—De La Mare, Mr. C. G. Croûtes.
 1894—De Sausmarez, Right Hon. Lord 43, Grosvenor Place, London, S.W.

* Junior Member.

- 1913—Dorey, Miss Claire* Care of Ladies' College.
 1893—Durand, Colonel C. J. The Villa, Grange.
 1913—Durand, Miss E. M. The Villa, Grange.
 1913—Durand, Miss F. M. de la C. . . . The Villa, Grange.
 1906—Falla, Mr. A. La Hauteur, Vale.
 1904—Fleure, Dr. Herbert J., D.Sc. . . . University College, Aberystwyth.
 1908—Foote, Advocate W. H. 6, New Street.
 1896—Foster, Miss F. A. Granville House.
 1914—Gibbons, Mr. A. J. F., F.L.S., F.G.S.,
 F.R.G.S. (France), F.R.H.S.,
 F.A.I., &c. Montpellier, Cobo.
 1916—Gould, Mr. A. A. The Uplands, Upland Road.
 1905—Guilbert, Mr. T. J., States Surveyor Rohais.
 1912—Guille, Rev. H. G. de C. Stevens,
 Jurat of the Royal Court St. George, Castel.
 1882—Guille, Miss S. Cressington, Gravées.
 1893—Harvey, General J. R. Oakleigh, Mount Durand.
 1906—Henry, Mr. S. M. Commercial Bank.
 1893—Hocart, Mr. J. S. Les Mielles, Vale.
 1911—Hocart, Mr. A. J., Jurat of the
 Royal Court Blanc Bois, Castel.
 1903—Kelson, Mrs. Doyle Road.
 1914—Kinnersly, Dr. G. E., Jurat of the
 Royal Court Calais, St. Martin's.
 1915—Leale, Mr. H. C. Vale House, Vale.
 1882—Le Cocq, Mr. Saumarez Clifton Lodge.
 1913—Le Masurier, Rev. A. G. St. Matthew's, Cobo.
 1912—Le Messurier, Mr. H. C. Beauséant, St. Martin's Road.
 1903—Le Mottée, Colonel G. H., Jurat of
 the Royal Court May Trees, Hauteville.
 1916—Lemprière, Mr. R. R. Rozel Manor, Jersey.
 1911—Le Pelley, Mr. J. Q. Vauvert.
 1912—Le Pelley, Mr. H. City & Midland Bank, High-street.
 1882—Lowe, Rev. F. E., M.A., F.E.S.,
 Membre de la Société Lepidop-
 tère de Genève St. Stephen's Vicarage.
 1911—Luff, Mr. E. A. La Chaumière, Brock Road.
 1903—Macleane, Mr. E. F. H. La Bigoterie.
 1894—Mainguy, General F. B., ex-Jurat
 of the Royal Court Les Rocquettes.
 1888—Marquand, Mr. E. D., A.L.S. . . . The Willows, Totnes, Devon.
 1896—Marquand, Mr. H. E. Star Office, Bordage Street.
 1914—Marett, Prof. R. R. Exeter College, Oxford.
 1907—Mauger, Mr. H. E., H.M.'s Sheriff Bon Air, St. Martin's.
 1900—Mellish, Miss A. L., M.A. . . . Ladies' College.
 1911—Metman, Mr. R. Les Vaurioufs, St. Martin's.
 1913—Molesworth, Hon. C. R. Pierre Percée.

* Junior Member.

- 1908—Moon, Miss A. Les Fontaines, King's Road.
 1913—Moon, Mr. J. A. Les Fontaines, King's Road.
 1913—Moon, Mrs. J. A. Les Fontaines, King's Road.
 1915—Moore, Mrs. F. Queen's Road.
 1905—Naftel, Mr. A. M. 13, George Road.
 1907—Nicolle, Advocate E. T. 3, Norfolk Terrace, Jersey.
 1914—Ozanne, Miss C. 29, Saumarez Street.
 1916—Ozanne, Mr. E. Chepmell, Bailiff of
 Guernsey Le Platon.
 1916—Palmer, Mrs. C. 40, Hauteville.
 1899—Penfold, Rev. J. B. V. Beaumont, Cambridge Park.
 1889—Penney, Rev. W. C., M.A. Elizabeth College.
 1916—Peters, Mr. W. H. Doyle Road.
 1882—Pitts, Mr. J. L., F.S.A. (Normandy) Guille-Allès Library.
 1906—Randell, Miss Clara Grove End, Doyle Road.
 1896—Robilliard, Mr. P. E. La Piette.
 1903—Robinson, Dr. E. L., M.R.C.S.,
 L.R.C.P. Melrose, Gravées.
 1914—Rolleston, Mr. W., M.A. Yandilla, Grange Road.
 1916—Rowley, Major J. Belvedere, Guernsey.
 1904—Rowswell, Mr. B. T. Les Blanchés, St. Martin's.
 1907—Sincl, Mr. Joseph 12, Royal Crescent, Jersey.
 1915—Slocombe, Miss M. Ladies' College.
 1909—Spencer, Mr. R. P. Brock Road.
 1903—Tanner, Mr. F. L., L.D.S., R.C.S.,
 F.Z.S. Vauvert House.
 1905—Tanner, Mrs. Vauvert House.
 1893—Tourtel, Rev. R. H., M.A., B.D.,
 F.S.A. (Normandy) Torteval Rectory.
 1913—Tourtel, Miss M. Rochdale, Havilland, St. Martin's.
 1916—Vaudin, Mr. W. Zealand, Vale Road.
 1906—Végeais, Miss Brock Road.
 1903—Wild, Dr. H. S., M.R.C.S., L.R.C.P. Gravées.
 1908—Woolcombe, Dr. Robert Lloyd, M.A.,
 LL.D., F.R.G.S., M.R.I.A. 14, Waterloo Road, Dublin.

NEW MEMBERS (1917).

- Stacey, Miss. 3, Doyle Terrace, Doyle Road.
 Gliddon, Mr. H. A. White Gates, Rohais.
 Dixon, Miss Ladies' College.
 Greenhow, Miss Ladies' College.
 Hawke, Miss. Ladies' College.
 Treherne, Mr. Hugh Pierre Percée Lodge.
 Littlewood, Mr. A., B.A. Elizabeth College.
 Scott, Mr. A. Luckhurst 26, High St., Wimbledon, S.W.
 Hichens, Mrs. Saumarez Street.
 De Gruchy, Mr. G. F. B. Noirmont Manor, Jersey.

TRANSACTIONS OF THE SOCIETY.



*Monthly Meeting held March 22nd, 1916, Miss A. L. Mellish,
President, in the chair.*

The Secretary read correspondence which had passed between him and Advocate E. T. Nicolle, the Secretary of the Société Jersiaise, relative to the proposed visit of this Society to Jersey. A discussion thereon took place, the majority favouring August as the most suitable time, but the arranging of the details was left in the hands of the Council.

Col. T. W. M. de Guérin read a paper styled "Introduction to Mr. F. C. Lukis's Archæological paper in the Lukis Museum," which will be published as an appendix to the Society's *Transactions*.

*Monthly Meeting held April 26th, 1916, Mr. A. Collenette in
the chair.*

Owing to the absence of both the President and Secretary, Mr. Collenette was voted to the chair, and Mr. B. T. Rowswell to perform the Secretary's duties.

Col. T. W. M. de Guérin described two Neolithic kists discovered near Rousse Tower in the early part of April. They are situate below high water mark and are peculiar in that they run north and south instead of east and west, the usual direction.

Mr. A. Collenette spoke on the geological features of the site and pointed out that the present position of these kists below high water mark was clear proof of the sinking of the land since their construction. A full account of this discovery will be found in another part of these *Transactions*. Mr. A. Collenette gave an abstract of a paper entitled "The puzzle presented by the Moulin Huet and Icart Caves," which will be also found in these *Transactions*. A discussion followed in which Mr. A. A. Gould took a prominent part.

The visit of members of the Society to Jersey took place from the 30th July to August 7th, and being favoured by the finest of weather proved very enjoyable. A full account by the Secretary will be found further on.

OPENING OF THE WINTER SESSION, 1916-17.

Monthly Meeting held October 18th, 1916, Miss A. L. Mellish, President, in the chair.

Mr. R. R. Lemprière, Vicomte of Jersey, was elected a member of the Society.

Mr. A. Collenette read some notes on the occurrence of Rostro-carinate Implements in Guernsey, illustrated by a lantern slide of four such found by Mr. H. J. Morgan in his garden. The speaker considered them to be of Mousterian age. These notes, with a photograph of the implements, will be found in the *Transactions*.

Major S. Carey Curtis read a paper concluding the review of the Church Plate of the Guernsey Deanery.

Monthly Meeting held November 15th, 1916, Miss A. L. Mellish, President, in the chair.

The Secretary read a letter from Miss Edith F. Carey suggesting that the winter meetings should in future be held in the afternoon, as many members living at a distance were unable to attend in the evening. A discussion took place, and eventually it was decided to bring the question before the general meeting to be held on December 13th.

The first part of a paper by Mr. A. Collenette on "The Geological History of the Pleistocene period in Guernsey" was read. This was illustrated by lantern slides. The reading of the remainder of the paper was postponed to the meeting to be held in February next, when it was hoped time would be found for an adequate discussion of same.

Thirty-fourth Annual General Meeting of the Society held December 13th, 1916, Miss A. L. Mellish, President, in the chair.

Major J. Rowley, of Belvedere House, and Mr. E. Chepmell Ozanne, Bailiff of Guernsey, were elected members of the Society.

The report of the Council was read by the Secretary.

The report of the Antiquarian Section was read by Major S. C. Curtis, that of the Entomological Section by Rev. F. E. Lowe. There was no Botanical Report owing to the continued absence at the front of the Secretary of that section, Mr. R. Metman, and the reading of the other reports was postponed.

Mr. E. Chepmell Ozanne, Bailiff of Guernsey, was elected President of the Society, replacing Miss A. L. Mellish whose term of office had expired. The officers of the Society were re-elected, the only change being the election of Miss Edith F. Carey as a member of the Council to replace Mr. D. B. Cromartie, who has ceased to be a member of the Society.

The Treasurer read a statement of his accounts, showing a balance of £32 12s. 8½d. in hand.

It was suggested that persons residing out of the island who had rendered exceptional services to the Society might be admitted as honorary members, and after discussion, the Secretary was instructed in convening the next meeting to give notice of a proposed alteration in the rules of the Society for the purpose of carrying out this suggestion. A proposition based on Miss E. F. Carey's suggestion referred to in the report of the November meeting, that the meetings of the Society should be held in the afternoon was put by Mr. A. A. Gould and seconded by Miss Foster, but was not carried.

Miss A. L. Mellish then read the first part of her address as retiring president, the remainder being postponed to the next monthly meeting owing to the lateness of the hour.

Monthly Meeting held January 24th, 1917, Mr. E. Chepmell Ozanne, Bailiff of Guernsey, President, in the chair.

The following members were elected:—Miss Stacey, 3, Doyle Terrace, Doyle Road; Mr. H. A. Gliddon, White Gates, Rohais; Miss Dixon, Ladies' College; Miss Greenlow, Ladies' College; Miss Hawke, Ladies' College.

The question of admitting honorary members in conformity with the suggestion made at the Annual Meeting came up for discussion. Mr. F. L. Tanner proposed and Mr. A. A. Gould seconded the following proposition, viz.: That in Rule 5, the words "Honorary Vice-Presidents, not to exceed two in number" be added after the word "President." An amendment was proposed by Mr. A. Collenette, Mr. C. G. De La Mare seconding, to the effect "That a new rule be added as follows:—

"17.—The Council may nominate for election as Honorary Members persons who have rendered important services to the Society, or who are specially distinguished in the objects for which the Society has been formed."

This proposition and the amendment thereto to be considered at an Extraordinary General Meeting to be convened for the purpose.

The new President then addressed the members, dealing with the work of the Society and its aims.

The retiring President, Miss A. L. Mellish, concluded her address postponed from the Annual Meeting.

Mr. A. Collette read an abstract of his report on "The Sunshine and Rainfall of Guernsey in 1916." This will be found in these *Transactions*.

This volume of the *Transactions* also contains the list of words in the Guernsey dialect by Rev. R. H. Tourtel, stated in last year's *Transactions* to be included therein, but which was unavoidably omitted.

Report of the Council for the Year 1916.

The Council, in presenting this Report, feels that it must congratulate itself on the work for the past year. In it was inaugurated the first of what it is hoped may be the series of more extended excursions in the future, when the anxieties connected with the present war are at an end. The visit to Jersey at the end of July last was the most ambitious undertaking the Society has embarked on. True, there have been excursions to Alderney and Sark, but these have been merely day excursions, whereas the visit to Jersey lasted a week. During that time the energetic members of the Société Jersiaise arranged that there should not be an idle minute, and on the other hand there was no "hustle." There was not a single contretemps during the whole excursion, the weather was perfect, and the 19 pilgrims returned to Guernsey more than satisfied with the visit.

The Council could not help remarking the enthusiasm shown in Jersey for the common purposes for which both Societies have been formed. The membership of the Société Jersiaise is about 300, at a subscription of a sovereign; ours is only 100, at a subscription of 7/6 per annum; and the difference in population is not large enough to explain this disparity in numbers, and the increased difficulty of obtaining members if the subscription is at a higher figure is well known.

The result of this enthusiasm in the sister Isle is that the scope of its activities are much wider than is possible here. The Council feels that though this Society is able to pay its way, should anything extraordinary come to light, such as a Mousterian cave of the type of St. Brelade or St. Ouen, it would be impossible even to initiate the necessary excavation without an appeal to the outside public, and the result

of such an appeal is very doubtful. Again the Société Jersiaise is able to publish in addition to the important matter contained in its Bulletins, Manuscripts of such matters as Extantes, Close and Patent Rolls, Assize Rolls, Diaries and other most interesting subjects connected with the past history of the Island, which could not be profitably printed as a commercial transaction, but which come within the scope of work of a Society such as our own.

Another point worthy of note is that the Société Jersiaise is a corporate body, able to hold real property, and that the whole of the monuments in Jersey not in private hands are in its possession, instead of being as in Guernsey in the hands of the States. The question for or against this policy may be a debateable one, but the fact remains that this power to hold property gives a permanent footing in Jersey to the Société, instead of a precarious existence such as our Society enjoys.

The Council has no intention at present of putting forward for adoption by this Society any of the above points, but takes this opportunity of comparing the scope of work exercised by both Societies, studying the differences, and adopting possibly in the future any parts which it should be considered beneficial to the work of the Society.

In the comparison of actual work accomplished by the two Societies, the Council feels that Guernsey has much to congratulate itself on. Thanks to the Lukis family, researches into the Neolithic remains of the Island are and have been for a long time, practically complete. The work of Mr. E. D. Marquand, the late Mr. W. A. Luff and others, have given us a list of Flora and Fauna, which, even after a lapse of ten years, scarcely requires revision. Our geology has been studied in all its aspects; and our climatological records go back nearly 80 years. It is true that our Paleolithic discoveries have not approached the extent of the Jersey ones, but fortune up to the present has been against us in this one subject.

Our two Museums contain a larger variety of specimens than the Museum in Jersey, which is the property of the Société Jersiaise, but the want of suitable accommodation, under one roof, makes them much less valuable than they would be if they were properly housed and exhibited.

The excursions usually held during the summer months have again had to remain in abeyance owing to the continuance of the war, but the winter meetings have taken place as usual. At the March meeting Col. T. W. M. de Guérin

read a paper entitled "Introduction to Mr. F. C. Lukis' Archæological Papers in the Lukis Museum," which will be published in the series of the Transcripts of the Lukis MSS. At the March meeting, Mr. Collenette read a paper, "The Puzzle of the Caves," which will be found in this year's *Transactions*. An account of the visit to Jersey will also be found in the *Transactions*. The October meeting was taken up by the concluding paper of "The Church Plate of the Guernsey Deanery," by Mr. S. C. Curtis, and the November meeting by the first part of the Geological History of the Pleistocene Period in Guernsey, both of which papers are printed in the *Transactions*.

MEMBERSHIP.

The membership this year is 108 as against 98 last year.

The only loss by death this year has been that of Mr. J. S. Hocart, of Les Mielles, Vale. He had not been an active member for some years past, but his knowledge of the island, its customs and language was great, and he was always ready to place it at the disposal of any enquirer.

The Council has to express regret at the resignation of Mr. E. D. Marquand, a Vice-President of the Society and talented author of the "Flora of Guernsey," a work which is and will always remain a text book on the plants of the Bailiwick. He was a very early member (1888), and was President in 1894-1895.

As in former years, the Council has to tender its thanks to the Management of the Guille-Allès Library for the continued interest in the work of the Society, and the material help in the form of the use of a room for the meetings and the use of the Electric Lantern attached.

The following additions have been made to the Society's Library by exchange :—

From La Société Jersiaise, Jersey :—

Quarante-et-Unième Bulletin Annuel, 1916.

Actes des Etats de l'île de Jersey, Juillet 1795-Décembre 1798.

From the Torquay Natural History Society :—

Journal of the Society for 1916.

From the Queensland Museum, Brisbane :—

Memoirs of the Queensland Museum, Vol. 5, 1916.

From the Smithsonian Institution, Washington, U.S.A. :—

Annual Report for 1914 and 1915 (two vols).

Annual Report of the United States National Museum, 1915.

- From the Library of Congress, Washington, U.S.A. :—
Annual Report of the Librarian of Congress, 1915.
- From the Boston Society of Natural History, Boston, Mass. :—
Proceedings, 1915, Vol. 35, No. 2. Charles Sedgwick
Minot. Memoir.
Proceedings, 1915, Vol. 35, No. 3. Serpentine of Ver-
mont.
Memoirs, 1916, Vol. 8, No. 2. Whalebone Whales of
New England.
Occasional Papers, VII. Fauna of New England. Part
13.
- From the Academy of Natural Sciences, Philadelphia :—
Proceedings, Volume LXVII, Part 3, 1915.
„ Volume LXVIII, Part 1 and 2, 1916.
- From the Lloyd Library, Cincinnati, Ohio, U.S.A. :—
Bibliographical Contributions, Vol. II. Nos. 7, 9, 10 and
11. 1915-16.
Synopsis of the Section Apus of the Genus Polyporus.
1915.
- From the Wisconsin Academy of Sciences, Arts and Letters,
Madison, Wisconsin :—
Transactions, Vol. XVIII. Parts 1 and 2. 1915-16.

ABSTRACT OF THE TREASURER'S ACCOUNT.
C. G. De La Mare, Treasurer, in Account with the Guernsey Society of Natural Science.

1916.	£	s.	d.	1916.	£	s.	d.
Balance of last year's account	28	15	0½	Cost of <i>Transactions</i>	30	15	8
Copies of <i>Transactions</i> sold	3	4	6½	Binding set of <i>Transactions</i> in vellum for presentation to Société Jersiaise	3	3	0
Subscriptions for 1915	3	7	6	<i>Star</i> Printing Co., amount of accounts	0	10	0
" for 1916	36	17	6	<i>Press</i> Co., amount of accounts	2	19	0
Interest on deposit at Bank	0	12	8	Collection of Subscriptions	1	7	6
				Caretaker	0	15	0
				Postages and freight of Parcels	0	14	4½
				Balance in hand	32	12	8½
					£72	17	3

Examined and found correct, December 14th, 1916.

J. A. MOON,
 BASIL T. ROWSWELL, } *Auditors.*

C. G. DE LA MARE, *Hon. Treasurer.*

PREHISTORIC RESEARCH FUND.

1916.	£	s.	d.
Balance in hand from last year	7	14	1
June 30—Interest on Deposit at Bank	0	4	8
Jan. 27—Grant from Guille-Allès Library	5	0	0
	£12	18	9

Report of the Antiquarian Section.

A singular discovery was made in April 1916 near Rouse Tower of two cists actually in the beach. The find was described at the May meeting and a note made at the time by Col. T. W. M. de Guérin is to be found in these *Transactions*.

A further examination was made in May at Dehus Dolmen, the brambles and fuze which surround and cover the stones having been removed. Nothing was found which could give hopes of any further considerable discoveries, but the opportunity was taken to make an accurate plan of the stones, which plan was found to differ in several details from the plans made by the members of the Lukis family. As soon as it is possible to plot the whole site, which will only be practicable when the brambles covering the stones of the surrounding circle have been removed, the plan will be published in the *Transactions*.

During the visit of the Society to Jersey, an opportunity was afforded of comparing the remains, both prehistoric and historic, in that Island with those of similar type in Guernsey. The periods are as follows: (1) Prehistoric—Dolmens, Cists and Caves; (2) Historic—Churches, Manor Houses, &c., and Castles.

1. Prehistoric.—A general review of all the *Dolmens* in Jersey emphasizes their positions as being mostly on the high ground and also spread generally over the island. The only dolmen on the lower levels brought to our notice was the one or rather set of dolmens, as it included a chambered barrow and an *allée couverte* near the First Tower, known locally as the Ville es Nouaux. There are no dolmens in Guernsey existing except on the low-lying ground at the northern part of the island and near the sea coast. Traditions however exist of dolmens on Jerbourg, l'Hyvreuse, Rue à l'Or and other spots on the higher ground.

Caves such as those of St. Ouen and St. Brelade have not up to the present been found in Guernsey.

Kists were not noted as presenting any great variations in type from the few found in Guernsey.

2. Historical.—*Churches*.—The type of church in the country was not very dissimilar from those of our Island. Vaulted roofs as here prevailed, and two aisles generally were found. The spires, however, presented a great variety, from the very pointed, as at St. Martin's, to the almost pyramidal at St. Ouen's. A noticeable feature in the majority of the

spires were the conspicuous louvres in connection with the bell chambers. At St. Brelade's is the staircase which led to, in olden times, the Rood Loft, the only one I am aware of in the Channel Islands. The windows are chiefly remarkable for the number which have been removed to give place to larger ones. The reason is not far to seek. Generous benefactors have given stained glass windows from time to time, and gradually the light, which was none too bright for the worshippers with the small windows, with clear glazing, made some change imperative, unless recourse was to be had to artificial light practically at all times. The small windows were removed and replaced by larger ones, not always with happy results as regards the exterior, but undoubtedly more comfortable for the worshippers inside the buildings. Another feature noticed was the tendency to remove the plaster and leave the stones of the vaulting and walls exposed. This was especially the case at St. Brelade's and St. Saviour's, and though the effect was very interesting, it undoubtedly darkened the churches. The true solution seems to be that the stonework was whitewashed, and frescoes such as were found at St. Clement's, finer than any we have here, were intended to be painted on this whitewash.

Manor Houses.—These are in Jersey generally very fine, especially in the interiors, the exteriors generally having been plastered or altered in some way. St. Ouen's is of course unique. It was most sympathetically restored some years ago, and remains as befits the seat of the premier family of Jersey, the finest specimen of the ancient Jersey Manor House existing. Trinity Manor is disappointing. It is undoubtedly a fine specimen of architecture, of good proportions and imposing scale—a modern rendering of a Normandy château. But it is not Jersey. Rozel Manor is interesting internally; but the exterior bears a strong family resemblance to Castle Carey, Elizabeth College and other places in Guernsey which were covered with the Roman cement produced at the Varde Mill, near Montville, so much so that one wonders if the same architect—J. Wilson—the builder of our Old Market, was not employed there to change its appearance from a comfortable looking square house to what the house agent would term a castellated mansion. The Manor House at Longueville ranks next to St. Ouen in interest. It has a fine 16th century entrance doorway and, with its beautiful grounds, well keeps up to the reputation of the Jersey Manor House. St. John's Manor has been practically rebuilt to modern ideas; also Dielament Manor,

and this last is in a neglected condition. A noticeable small Manor House is that of Les Augrès, which, though practically only a farm house at present, retains the charm of antiquity in fine gateways and arches.

Both St. Ouen and Rozel still retain their Manorial Chapels which have been well restored, as well as their Colombiers or pigeon-cotes. These last are also to be found on nearly all the other manors. The grounds surrounding the manors at St. Ouen, Rozel and Longueville were very fine.

The Castles of Jersey are worth describing. Elizabeth Castle in the bay opposite St. Helier's is interesting from its associations with Charles II., but our Castle Cornet retains so much more of its mediæval buildings, and the famous siege, not to say its early history, makes it of equal if not greater historical interest. They are both grievously disfigured by the number of dilapidated military buildings in their precincts. The small chapel of St. Helier, perched at the top of a huge rock, lately restored, is unlike anything we have in Guernsey. It was unfortunate that time did not permit us to visit Grosnez Castle, though it was on the programme for the Wednesday, but several of the sculptured corbels in the courtyard of the Museum of the Société Jersiaise gave a good idea of the character of the remains. The *pièce de résistance*, of course, is Mont Orgueil. Situated as it is on a bold headland, with centuries of history behind it, no building in the Channel Islands, either ecclesiastical or secular, can compare with it in interest, and the careful restoration which it is receiving at the hands of the Société Jersiaise, where nothing is put in for which there is no authority, and which is merely a renewal of worn-out or broken parts and not the usual drastic rebuilding, in no way detracts from this.

A noticeable difference in Jersey from Guernsey was the way the word "Hougue" is used. With us it usually is applied to a slight rising of the ground, generally natural, e.g., Hougue Ricart, Hougue Maingy and others, the only one bearing signs of being artificial being the Hougue Fouque. In Jersey the word seems to be applied to an artificial mound, such as would be called in England a barrow or tumulus. The Hougue Bie, Hougue Boette, Hougue de Noirmont are all of evident human formation.

Report of the Entomological Section, 1916.

Lepidoptera have been far from plentiful this year. From the 16th of June to nearly the end of July I spent

most of my days at Pleinmont, and so was able to compare the insects of 1916 with those of 1915—in the same locality and at the same dates.

Without exception, I think, every species even the commonest, was less abundant this summer. The early mornings and evenings were very cold though the days were fine the wind, generally from N.E., often high. In June there were many days of fog lasting till late afternoon. In August and September the weather was more favourable, but insect life had suffered from the exceptional drought during the feeding time of larvæ. The military restrictions in the use of lights still remained a hindrance to night collecting. But notwithstanding drawbacks there are few interesting captures to note, two species not hitherto recorded for Guernsey, and others of such rare occurrence in the island as to deserve a place in your annual report.

My two new discoveries consist of one *Eupithecia* or *Pug*, and one *Noctua*. The former *Eupithecia subfulvata* was taken in the lane connecting the Castel Church with the Foulon on August 5th. It is generally reputed common in England.

The second novelty, *Erastria fuscata* (fuscula), was more of a surprise. I beat it out of a hawthorn hedge above, and a little to the west of Petit Bôt, on July 28th. This was rather a late date for this species, which is somewhat a local insect. I have taken it constantly in the New Forest and also on the continent, but always in woods, especially among fir trees. Its food plant, Purple Melic-grass (*Molinia cœrulea*), is stated in Marquand's "Flora of Guernsey" to be rare, but "the cliffs towards Corbière" are mentioned as a locality where it grows.

Of things not new, but worthy of observation, the pretty little orange-tip butterfly, *Euchlœ cardamines*, arrived first. The lucky captor was Amyat, the little son of Mr. Bullock, Woodhayes, Amherst. This young collector gives promise of making a keen entomologist. The specimen was taken in the fields of Beauséjour. The only other reported capture is one taken by the late Mr. Luff in 1893, at Grande Mare, in which year I also saw a specimen in the Ramée Road. As its food plants are abundant here, and the butterfly is widely spread and mostly common in England, it is somewhat strange that it should not be among our indigenous insects.

On July 14th I took a freshly emerged female of *Nola Albula* at Les Tielles, Forest. Only one other of this always rare moth has been taken in Guernsey, a male—which is also in my cabinet.

On August 30th, Mr. Frank Drake, of Monnaie de Haut, brought me a full-fed larva of *Notodonta Ziczac* to identify. Mr. Luff and myself have each taken one specimen of the imago of this moth. These I believe are the only records. From the point of view of rarity, the most notable entomological event was the taking of *Leucania L. album* at sugar in my garden. We must travel back 45 years for a record of a visit to our Island of this species. Mr. Luff took a specimen near Fermain Bay in 1871. I have said "a visit," because there is little doubt that specimens of this rarely taken insect, both in England and here, are immigrants from France. I have a series taken in Switzerland and France where it is common.

Another moth, the geometer *Melanippe rivata* (the Wood Carpet), appears to be very scarce here. I took two this summer in the Torteval lanes. Mr. Luff took two in 1874 at Fermain.

Three other insects reputed very scarce in Guernsey I found to be tolerably common when you know *where* and *when* to look for their larvæ. The pretty little lichen feeder, *Cleora lichenaria* larvæ, I beat in some number from an old hedge when I was unconsciously trespassing on Mr. J. Bonamy Collings' ground, above his new house. The owners came upon me and courteously invited me to continue my hunt; in consequence I bred about 20 specimens of the moth. *Agrotis strigula* or "True lover's knot," is to be obtained easily in the pupal stage in mid-July—under the heather above Gull Rock—and near Pleinmont Point. On one occasion I got seven in less than a hour. The larvæ of *Dianthæcia Conspersa* (nana), as well as *D. Capsophila*, are to be had in some number by searching the sea campion on the cliffs, with larvæ of *Eupethecia venosata* and others.

This year I found one solitary larva of *Lasiocampa trifolii*, which, as I reported last year, I had not seen for a very long time. It unfortunately escaped from the breeding cage a day or two later. I was more successful with our Guernsey form of *Dianthæcia Barrettii*—var. *Lowei*, for I bred a dozen fine specimens from pupa obtained by hours of patient and exhausting labour.

In conclusion I wish to express regret that our Society does not create any new enthusiasm for the study of entomology. We want many more observers and collectors if we are really to make anything like a complete list of our Island insects. There is special need of resident collectors in the parishes of S. Peter's and the Forest. The

centre and more wooded parts of the Island have been neglected for the more productive and pleasant cliffs. But that there are still many unrecorded species, which will only be found inland, I am persuaded. A large proportion of the considerable additions I have made to the known fauna of Guernsey have not been coast insects. In the case of the Micro-lepidoptera, the lanes, gardens and fields are likely to offer the best chance of fresh discoveries and an extended list. Parts of S. Andrew's parish also appear very promising.

THIS YEAR'S ADDITIONS TO OUR LIST.

Eupithecia subfulvata.

Erastria fasciata.

FRANK E. LOWE, F.E.S.,
Hon. Sec., Entom. Section.

Report of the Ornithological Section, 1916.

The habits and behaviour of birds in and about the firing-line in France and Flanders since the outbreak of the war has been the subject of interesting articles in different papers. Some writers have stated that the noise of the guns and the general destruction has scared the birds and driven them away, while others have emphatically denied this and recorded observations in proof of their statements.

One careful observer—H. Thoburn-Clarke—in a delightfully written contribution to *Country Life* of October 7th, titled "Swallows at the Front," says :

"The idea that gun-fire would chase away the birds has been quite exploded, and the pathetic story of the swallows and martins wheeling around the ruins of their last year's home, tweeting miserably and then departing from the battle area of ruined towns and villages is quite untrue. Personally, I think the swallows and martins prefer the ruins. The vast quantity of insects which the life on the battlefield encourages provides them with plenty of food and accounts for the fact that swallows and martins are far more plentiful than they were during pre-war days."

Mr. Thoburn-Clarke begins his article thus :

"At half-past seven on Easter Sunday the airscout on the look-out for hostile aircraft called me out to see the first swallow. The jolly little beggar was hawking about over the guns catching insects in the most natural manner in the world. Although every now and then a gun boomed out its deadly message, the swallow did not appear at all alarmed by the noise Later in the day a service was

held within a hundred yards of our position, and the swallows skimmed backwards and forwards apparently unconcerned with the strange scene and intent on gathering insects."

And Mr. Clarke tells how the "strange scene" included

"the sharp, incessant boom of the guns and the whistle of bursting shrapnel from 'the guns the foe were sullenly firing.'"

Mr. Clarke's observations point to the birds being apparently utterly indifferent to the reign of terror and uproar, into the midst of which they had arrived and remained. And he relates one instance of a tree, on the branches of which swallows and martins were perching, being shattered by an enemy shell. The birds scattered, "yet, after flying about for a few minutes they settled down on another tree, preened their plumage, and twittered as if nothing unusual had happened."

Our migrants—the swallows and other birds that have spent the pleasant days of this summer in Guernsey and the adjacent islands—have not been worried by gun-fire or earthquake-like convulsions of the ground. In peace and quiet they have built their nests and reared their young; undisturbed by abnormal sounds they have wheeled about in the warm sunshine by day and roosted peacefully in trees and shrubberies at night. Happy, glad, free from care, they came from distant lands to the war-worn countries of Europe, happy and glad they sojourned with us for a while, happy and glad they left us again at the appointed time—left Europe a still sadly war-worn conglomeration of nations. What will the birds find at their next return a few months hence: this mighty convulsion abated, and happier peoples; or will the "Great Killing" with all its unthinkable horrors still hold Europe in its grip?

But I must pass on and give you a brief account of the results of this year's observations of myself and others who have made notes in connection with the migrants that have visited us. To all those who have helped me and whose names appear below I tender hearty thanks for their kindly co-operation.

Chiff-chaff.—Our earliest date in thirteen years for first hearing the Chiff-chaff is March 19 (1913). This year I heard and saw one in the Fermain bay valley on the 20th. For several days after this I did not again hear the bird, but by the end of the month the pleasant note was becoming more frequently heard, and on the morning of April 10th the Moulin Huet valley was vocal with the sound. I had never heard so many Chiff-chaffs at the same time, and think a party of them must have arrived

that morning and halted there before dispersing inland. All through the long days of summer a ramble in the country cannot fail to tell one of the presence of this sweet-voiced little bird, and well into the Autumn he may still be heard, for the Chiff-chaff, early to arrive, is also late in leaving our shores. I heard the bird frequently during September and for the last time (at St. Martin's) on October 10th. In some years the note has still been heard more than a week later than this.

Wheatear.—Who that frequents L'Anresse Common and journeys along the coast road from thence to Pleinmont is not familiar with the Wheatear—that bird, with the white rump, which starts from the grass on one's approach and flies a few yards on ahead to repeat the performance when one gets near to it again? If not known by name it must be well known by sight to many. The bird is, as I have said, the Wheatear, another of our summer visitors. As noted by Mr. J. S. Hocart at the Vale and myself at St. Martin's the bird was very late in arriving this year—Mr. Hocart first saw one on April 16th and myself on the 17th—but Dr. Cresswell told me on April 11th that he had seen one on the front at Cobo quite three weeks before. This, on the other hand, takes us back to quite an early date for first seeing the Wheatear. Speaking for L'Anresse Mr. Hocart reports the bird as having been very scarce this summer and he saw none after October 1st. During August I chanced upon Wheatears at several different spots round the island, and saw the last (several) between Pleinmont and Perelle on October 9th. In some years the bird has been seen from two to three weeks later. On August 22nd I saw a Wheatear on the Hogs Back cliffs, Sark.

Wryneck.—On April 1st, ten days earlier than last year, the always welcome note of the Wryneck was heard at Torteval by Miss Tourtel. For more than a week following this date nobody else reported the fresh, exhilarating call, but on the 9th it was heard in districts as far apart as the Vale (by Mr. Hocart) and St. Martin's (by Mr. S. M. Henry and others); also at La Moye, Jersey, by our old friend Mr. Joseph Sinel. I did not hear the bird myself until the 13th and did so but little up to the end of May. Throughout June one was frequently *en evidence* at Les Blanchés, while on July 4th my wife and I heard one so near to the town as the middle of Hauteville. The little fellow was singing away quite briskly. Mr. Hocart's last date for the Vale was June 24th, and the Rev. R. H. Tourtel's for Torteval, July 8th. Passing through Les Vardes, St. Peter-Port, I heard one as late as July 21st. This is not a record date, for in 1908 Mr. Hocart reported the note on July 30th, but this notwithstanding, the end of the third week of July is a fairly late date for still hearing the Wryneck's note.

Cuckoo.—The "bird of mystery" announced its arrival to listening Guernsey on April 18th. I say to "listening Guernsey" because for sure of all our bird visitors the Cuckoo is the one most listened for. We generally expect to hear the familiar note about the middle of April, and on the afternoon of the 18th my wife and myself both heard and saw a Cuckoo in the neighbourhood of Saints' bay. By the 21st, which was Good Friday, the bird was widely distributed, for the Rev. R. H. Tourtel has reported its appearance at Torteval on that day, Major S. C. Curtis at St. Saviour's, and Mr. and Mrs. S. M. Henry at Le Vauquiédor. It was also heard at St. George. Two days later (April 23rd) Mr. Hocart heard it at the Vale, and on this day also, as told to me by Mr. W. J. Kaye, of the Lighthouse, the bird made its entry into Sark. All through May and up to the middle of June the Cuckoo never tired of letting us know he was here, and then suddenly at Midsummer, earlier than usual, he ceased singing. Mr. Hocart did not hear the bird after the 22nd, Mr. Tourtel after the 23rd, and my last date was the 24th. In some years, and not infrequently, the Cuckoo is heard up to the early days of July.

Swallow.—Swallows were either late in arriving this Spring, or late in being noted. The first intimation of their coming was a paragraph in the *Evening Press* of April 18th which ran: "Four swallows were seen flying across Moie de Mouton, Sark, on April 16th. At Guernsey none were reported as having been seen until April 24th, Easter Monday. On that day Miss K. Tardif saw two at L'Islet and one was sporting about at Les Blanchés for several hours on the afternoon of the same day. The following day I again saw some—in the early morning, flying over the Fermain cliffs, in the afternoon at Havilland. On April 30th Miss E. Henry observed two at Moulin Huet, and slowly but surely from this date onwards Swallows were more frequently seen and became more numerous. At the Vale Mr. Hocart first saw some on April 28th, which was, as he remarks, a very late date, and he adds: "They were scarce at first and the bulk of them left the Vale in the last days of September, only stragglers passing over after." Mr. Hocart saw none after October 19th. Other observers, including my friend Mr. Edward Rammell, Dr. Kinnersly and Miss K. Tardif, were more fortunate, all of whom chanced to see stragglers as late as the early days of November. The last seen was a solitary little flier at Les Blanchés on the 7th, and three observed by Miss Tardif at Le Friquet (St. Martin's) on the 8th. If late in arriving, as they certainly appear to have been, Swallows this year remained on quite to their normal date of departure.

House Martin.—The House Martin, apparently, as well as the Swallow, was late in appearing. In some years stragglers of both kinds are seen quite early in April and by the middle of the month are certainly due to arrive. This year I saw none until the 24th, when one flew past at Les Blanchés. These little birds are never so abundant here as the Swallow, but I am inclined to think that at the time of the autumn migration many make a brief halt here before continuing their journey south, for small companies are frequently to be seen about this time. My last date for seeing House Martins this year was October 2nd, but Mr. Rammell saw several on the 24th, which is still, however, an early date for losing sight of them altogether.

Swift.—Mr. Thoburn-Clarke, in the article in *Country Life*, from which I have already quoted, writes of the Swift as having "a mortal antipathy to both Swallows and House Martins," and he relates how at one place House Martins which had built their nests under the eaves of a ruined house were driven therefrom by the Swifts which morning, noon and night "harried the unfortunate Martins, whirling, circling and shrieking fiendishly close to their nests." Eventually, Mr. Clarke says, the little Martins deserted their nests and departed for another place where Swifts were fewer. I have never noted any antipathy of the sort myself on the part of the Swift; on the contrary it is not an uncommon sight here in Guernsey to see Swifts, Swallows and Martins all circling about together in apparent very good friendship. Swifts arrived this summer, or were first seen, at quite an early date. On the morning of April 25th I saw two flying about over the Fermain bay cliffs, and later in the day I saw one at Havilland, St. Martin's; the Town Church flock I did not see any of until May 4th. We have only one earlier recorded date in the *Transactions* (1903-1916) for first seeing Swifts, viz., April 24th in 1909. My own impression is that fewer Swifts than usual have come to us this year; also that observation shows them to have again left at an early date—the bulk indeed before the end of July. Stragglers only were seen in August and these were few and far between. I saw none after the 20th, when I observed one flying over our garden at Les Blanchés. In recent years the Swifts certainly seem to have gone off earlier than formerly.

Corncrake.—Land Rails have come to the island this summer but again certainly not in numbers, for the Rev. R. H. Tourtel has written me "Corncrake not heard," and Mr. Rammell, who is frequently about the

country, did not once hear the familiar call. One bird, however, haunted St. Martin's from May 10th to June 8th. It was first reported to me by Mr. G. F. Allès and for several nights it was heard in a field along the Saints road. It then moved nearer to Sausmarez Manor and was last heard there. In addition to this Mr. C. G. de la Mare heard the note on May 17th in the neighbourhood of Les Naftiaux, and on October 10th one bird was seen by Mr. G. J. Browning, of St. Martin's, not far from Les Rouvets at St. Saviour's. The strange movements of the Corncrake are still attracting the attention of naturalists who "from evidence from many sources" say that "it is clear that this species is liable to abandon certain once favoured haunts for no apparent reason, and after a lapse of time, to re-visit them again" (*Yorkshire Weekly Post*, Jan. 29th, 1916). As regards Guernsey we have undoubtedly been getting far fewer of this migrant than was the case some years ago, and in some seasons recently the bird has hardly been heard at all.

Cornish Chough.—The most interesting record of the year is that of Jurat G. E. Kinnersly, who on August 18th came into possession of a Cornish Chough which had met with a misfortune at Calais, St. Martin's. The Chough used to be a common resident here, but for years past has been quite unknown. On this subject I have heard the late Mr. G. T. Derrick speak of seeing Choughs on the cliffs of the South coast in the early years of his residence in Guernsey (about 1860), and Cecil Smith, in his "Birds of Guernsey," published in 1879, says: "The Chough is a common resident in Guernsey, breeding amongst the high rocks on the south and east part of the island, and in the autumn and winter spreading over the cultivated parts of the island, sometimes in considerable flocks, like rooks."

Norfolk Plover.—Another interesting record is the capture of a Norfolk Plover or Stone Curlew. One of these birds was "winged" at Icart on October 30th by a Mr. Le Cras, who took it alive to Jurat Kinnersly for identification. Mr. Kinnersly reports that he had never before seen a Norfolk Plover in Guernsey. There is no mention of this Plover by Cecil Smith, nor, I believe, is there any reference to the species in the Society's *Transactions*.

Ring Ouzel.—A pair of Ring Ouzels were seen at Jerbourg on May 2nd by Jurat Kinnersly. The Ring Ouzel does not stay with us; it is merely seen at the time of the spring or autumn migration and it seems to like the neighbourhood of Jerbourg, for Mr. Kinnersly has reported it from this district in previous years. Cecil Smith was of opinion that the bird was most frequently seen at the autumn migration and seldom in the spring of the year, an opinion also held by Mr. E. D. Marquand.

Miscellaneous.—Jurat Kinnersly has reported seeing two Nightjars at Calais, one on May 4th and the other on September 17th, possibly the same bird.

The pretty little Kingfisher, too, though a resident, is worth noting when seen, for it is not exactly abundant. On October 9th I saw one flying across Perelle bay, the gorgeous green feathers of the back looking resplendent in the bright sunlight prevailing.

Another feathered resident sufficiently scarce to bring us to a halt when it chances to cross our path is the Bullfinch, with its brilliant red breast. Several times this year I have been so fortunate, and for the poor bird's sake one can only regret the bad reputation held for it by nurserymen and fruit growers.

Puffins, as reported to me by Mr. R. P. Spencer, arrived early this spring. One was seen off the north of Herm on March 23rd by Mr. James Falla, the fisherman.

In previous reports I have spoken of the bird-rests fixed on Les Casquets and other lighthouses for the use of birds on

migration. There seems little room for doubt as to the success of the scheme for saving the migrants from destruction. In a report issued by the Royal Society for the Protection of Birds at the beginning of the year we read that at the St. Catherine's Lighthouse, Isle of Wight, it is now a rare occurrence to pick up any dead birds round the light. At Les Casquets the perches have been made good use of by the smaller migrating birds, and it is added that "on the nights from November 4th to 12th there were large flocks of birds resting."

BASIL T. ROWSWELL,
Hon. Sec. Ornithological Section.

SOME IMPRESSIONS OF OUR VISIT TO JERSEY,

JULY 30TH TO AUGUST 7TH, 1916.

The visit of the Société Jersiaise to Guernsey in 1915 left our Society with a duty, albeit a pleasant one, to fulfil, by accepting the more than cordial invitation of the Sister Society to pay them a return visit in their own confines. Doubts were freely expressed as to whether the visit would be a success. The expenses would be too great; the time was not a propitious one, and so forth. But the event disproved all these pessimistic prophecies and 7 o'clock on Sunday morning, July 30th, saw 17 of our Members determined to uphold the honour of the Society on board the "Great Southern." Our Geologists were there, also our Marine Biologist and two Genealogists and a few Archæologists, an Archivist and a sprinkling of the weaker sex, with two Vice-Presidents to keep the peace in case our Geologists were not able to settle their differences in a decorous manner. The morning was a beautiful one, and those who had been half-hearted over the excursion must have felt pangs of regret at not being of the party. Breakfast was our first duty, not up to the standard of our old friend the "Ibex," however. That over, we found ourselves nearing the coast of Jersey, and coasting along St. Ouen's Bay we soon passed the Corbière Lighthouse without any of the usual accompaniments—thanks to the calm weather—and in due course found ourselves in the Harbour of St. Helier.

The joint Secretaries of the Société Jersiaise, Mr. E. T. Nicolle (we lately had the pleasure of seeing his appointment as Vicomte of Jersey) and Col. R. G. Warton met us, and the usual introductions having been made we moved off to the Hôtel de l'Europe, where host Tremel received us in the way in which the French hotel "patron" is such an adept.

The first official event of the visit took place in the afternoon. The Société Jersiaise, with that forethought which was evident throughout the whole visit, and knowing that we should be probably at a loose end with the first Sunday—to many of us—in Jersey had arranged a full-dress reception in their Museum in Pier Road, a few steps from the Hotel. The President, the Committee and most of the offi-

cials were there to welcome us in the Library of the house over whose door is inscribed this quotation from Métivier:—

“ FIER COUM CYRUS,
MES VIERS GARÇONS, J'VOS OUVRE L'US,
L'US D'MA CAUMINE.”

welcoming workers in the field of science and research. A hasty look round, and it was really only a glance, at the precious contents of the cases, about which our old friend Mr. Sinel discoursed enthusiastically as well as scientifically, and we were called in to tea in the Library. The President of the Société Jersiaise in a few words of welcome and Col. de Guérin in a suitable reply, made us feel that we were no longer strangers in a far-off land, but among friends, although the acquaintanceship had been made so recently. We felt we were in for a good time, and events proved the truth of the thought.

The next day, Monday, July 31st, was the first of our perigrinations in earnest. We took the train to St. Aubin and thence through the lovely lanes in which Jersey can give us so many points, to Noirmont Manor, where the Seigneur, Mr. Guy de Gruchy, welcomed us. Anciently the seat of the Pipons, its many vicissitudes in ownership have left their mark and the severe style of the typical Jersey Manor-house has given way to modern comfort and convenience. The grounds are full of well-grown and rare trees.

Carriages took some, and others walked to the Hougue de Noirmont on a hill at the back of the estate. This was examined many years ago by the Société Jersiaise in its younger days as a Society and the results recorded in their Bulletins. It consists of a circular rubble wall about 30 feet in diameter and was apparently a burial-place of some person of note, possibly the prehistoric version of a Seigneur of Noirmont, but the evidences in the way of pottery or weapons of its age are quite wanting.

Our next move was to what was the cream of the whole excursion, the Cotte de St. Brelade. We had heard of *Homo Breladensis*, the Jersey Neanderthal, had even been privileged to gaze at some of his teeth; we had also heard of and seen the Mammoth's tooth and similar belongings of the hyæna, the woolly rhinoceros and other fearsome beasts from Mr. Sinel at the Museum, so that we were prepared for anything which might turn up. The way was circuitous, not to say precipitous, but nearly all our party safely negotiated the path and arrived to find Dr. Marett and his band of devoted

satellites in full work. In our innermost hearts we had hoped that some "bonne bouche" might have been reserved for us, or we were even prepared to swallow some judicious salting of the ground; but honesty won and Dr. Marett had to confess that it was a singularly blank day. We could not help appreciating the amount of work, mental as well as manual, the excavations have necessitated, and the Antiquarians of our party must have shuddered at the thought of what they would have to do if we came across a cave like the Cotte in Guernsey. *Noblesse oblige* would compel them to make even greater efforts for the sake of Guernsey's good name; it would never do to let Jersey come in an easy first, the rest nowhere, in the Prehistoric Stakes.

A walk across the sands of St. Brelade's Bay for the energetic and carriages for the rest brought us to St. Brelade's Bay Hotel, where our sad thoughts of envy in not having a Cotte of our own were drowned in a sumptuous lunch. The inner man being refreshed and comforted by (for the men) a suspicion of tobacco afterwards, the Church of St. Brelade and the Fisherman's Chapel hard by were visited. The Rector took us round and explained the various objects of interest and told us of the difficulties met with during the restoration. The tiny chapel, so like our Chapel of St. Appoline but rather larger, was also examined. The frescoes at the east end were in course of being restored. After this the Rector, not content with being our guide, philosopher and friend, now constituted himself as our host by inviting us all to tea with him and his sister at the Rectory. The day was far advanced when we left the hospitable Rectory, and some walking and others driving we reached Don Bridge Station *en route* for the Europe, where in due time we all arrived, having thoroughly enjoyed our first day's excursion.

Tuesday was a more strenuous day, being a drive through the Eastern portion of the Island. First to St. Saviour's Church, where Canon Luce (alas, now no more) did the honours. The Church was the second we had seen where the plaster had been removed, leaving the bare stonework exposed. The restoration of the Church had been thorough and sweeping. Our next stop was at the Hougue Bie, associated with Philippe d'Auvergne, Prince de Bouillon, a hero of an extraordinarily romantic history, who after being an Admiral of the British Navy found himself a sovereign prince of a portion of France. Here we had our first experience of the lucid accounts of the various places we visited from the Secretary of the Société Jersiaise. It was the

vicissitudes of the spot, commencing with the almost Arthurian legend of the slaying of the Dragon by the Seigneur of Hambye, and later its associations with Dean Mabon. This last has such a Welsh smack about it that one is tempted to make enquiries as to his nationality. The tumulus of the Hougue, obviously artificial, would probably repay burrowing into, but the result on the Tower, now none too secure, would be certainly disastrous. St. Martin's Church, our next objective, was ably expiated on by the Rector. By this time our Geologists were beginning to complain of mental malaise caused by a too severe course of Church Architecture. "Give us something with some antiquity" they said, "an ice-cap, a terminal moraine, or even a rubble head, and if we must put up with these modernities, we won't mind dolmen or two." They revived somewhat at the Dolmen of Faldouet, a fine Dolmen set in a circle, no pretensions to antiquity in it, of trees; a beautiful little avenue of young hawthorns led up to it from the road. Our next move was to the Elfine Hotel at Gorey for lunch, and surely the malaise of the geologists must have given way before the sumptuous lunch and the Omelette au Kirsch, served on fire, to wind up with. A lounge about the pier afterwards—it was low tide, and the water seems to retreat to the French coast—and we are off. Two more Churches, Grouville and St. Clement's, geologists again show signs of distress, revived at the Dolmen of Mont Ubé and finally recovered at the Manor House of Longueville, where Mr. and Mrs. J. J. Richardson were good enough to offer us tea on the lawn; and the beautiful grounds and the old-world charm of the house, not to mention the able description from the Secretary of the sister Society, made us when the time came to say good-bye to our host and hostess feel really sorry that the strenuous day had come to an end.

The next day (Wednesday), also a strenuous one, was to to the western and north-western parts of Jersey. An early start by brake to St. Ouen's Manor, a cordial reception by the Seigneur (Mr. R. Malet de Carteret), with a walk round the beautiful grounds and the old Manor House restored with so much taste, and the morning soon passed. A hasty glance at St. Ouen's Church and we are off to the Dolmen of Grantez, situated on probably the windiest spot in Jersey. Our hosts, with the forethought always in evidence during our tour, had arranged a perfectly calm day for this visit, for which were duly grateful. A short description of the Dolmen by Mr. Sinel and we find the morning is over. The inner man had to be kept up in the strenuous times we were in, and

Grosnez Castle was abandoned in favour of the hotel at Grève-de-Lecq, and we felt that the choice was a wise one—after lunch. Our next item was the Hougue Boëte and a tumulus of the same nature as, but on a smaller scale than, the Hougue Bie. This had been excavated by the Seigneur of the Fief and was found to be a burial-place. A few adventurous spirits of our party, regardless of their clothes, explored it. The spoils, consisting of horses' teeth chiefly, were at the Manor House. On arriving there, the Seigneur and Mrs. Raworth took charge of us, and to the great delight of the feminine portion of the party gave us a much appreciated cup of tea, most acceptable in the hot weather we were in. Next came another Church, St. Lawrence, with a welcome from the Rector and subdued murmurs from the geologists, and then a real reception by the Honorary President of the Société Jersiaise (Mr. Gervaise Le Gros) as a wind-up to the day. Our host, with Miss Le Gros, introduced us to all sorts of treasures in the way of rare plants. Our botanists not being with us, we could not help feeling aggrieved. We felt that we could not do justice to the rich fare before us without our savants. A glance at the Ville-ès-Nouaux Dolmen, apparently two monuments side by side, an *allée couverte* and a kist with a cromlech, forming the central portion of a public park, presented to the Parish of St. Hélier by Mr. Le Gros and we arrived back at the Hotel at about 7.30.

Thursday was not so strenuous for us, as Mr. Nicolle had shouldered the work and we were mere onlookers. The States of Jersey tug "Duke of Normandy," a well-chosen name, (why don't our States keep a tug like this in Guernsey to take us to Herm, &c.?) was at our disposal, and a short trip landed us on the breakwater opposite the Harbour and connected with Elizabeth Castle. A climb, very trying to the elderly members and some of the younger as well, to the top of a pinnacle of rock and we came to the cell of the Hermit, St. Helier. The race of Hermits has died out like stage-coaches, lits de fouaille, mad dogs and other once well-known objects, and one can hardly be surprised, considering the amount of discomfort they had to endure as their penance, and St. Helier did nothing to make his roost a comfortable one. Next to Elizabeth Castle, up a very steep and rickety staircase, and then back to the "Duke of Normandy," en route for lunch at the Hotel. After lunch, by train to Gorey and Mont Orgueil Castle, not forgetting a glance at the aboie of Omelette au Kirsch, the Elfine Hotel. The builders of Mont

Orgueil Castel understood their business when they fixed on the site, and they did the site justice in the building. As Prynne wrote in wretched doggerel,

“Mont Orgueil is a noble pile.”

His poetry is shocking, but truthful. Our friend, the Secretary, who had told us all about Elizabeth Castle in the morning, now took charge of us and conducted us round, over, under, outside and inside the Castle. We persevered and saw everything, and as we were looking our worst after our efforts, the photographer of the Société Jersiaise mustered us to have a group taken. By some means known only to him, he made us look as if we had had notice of the event, especially the ladies, and later endeared himself to us by sending each of us a photographic reminiscence of a very pleasant day. We felt we were taken at a disadvantage. We had provided none of these attractions, and we had to comfort ourselves with the thought that we had been the first to organise these excursions, and the Jerseyites were determined to go one better on us. “Fas est ab hoste doceri,” as we used to have to construe at school. Our next move was to Gouray Lodge, where Dr. and Mrs. Crallan had invited us to see their gardens and take tea with them. Again our Botanists were wanting, and worse still our Entomologist had failed us, and we felt the mere lay member could not do adequate justice to the beautiful gardens and grounds or to the magnificent collection of Lepidoptera shown to us. Crestfallen we had to confess Jersey was ahead of us in the minor (?) sciences, and almost felt that we had been taken a mean advantage of in showing us these treasures when we had no savant in the party to tell us afterwards: “Oh, we have all these in Guernsey and many other species which they have not.” The evening was spent at the Town Hall, (Jersey is quite up to date, no Town Schools, Vauvert Hall or makeshift for them), with a most interesting explanation by Dr. Marett of the nature of the Cotte de St. Brelade, followed by an exhibition of lantern slides of old Jersey “bits,” obviously the result of years of search. We have as interesting “bits” in Guernsey, but no one has collected them together as Mr. Piquet has. Happy thought, an excellent subject for a winter session meeting. A set of our *Transactions*, which had been carefully hidden from prying eyes, was at this stage of the proceedings presented to our confrères by Colouel de Guérin in a suitable speech, and then the light died down, as it has to by law in these days of excursions and alarums, and we wended our way home by the darkest streets known to history.

Friday, the last day of our visit, was the most strenuous of all. We all recovered from it, and even our geologists who did not have a single dolmen to pull to pieces and disagree over (at least the only one on the programme had to be missed, as it was late and besides was on fire, so they said), got through the day without sending out S.O.S. signals. Trinity Manor was our first stop, where we saw the much-debated restoration of the old house. We saw an eminent English Architect's vision of a Jersey Manor House, but it was not our idea. The oak of Charles II. was an ideal spot to view the outside of the house from, with a minimum of exposure to the sun, not a trifle to be disregarded in the hot weather we found ourselves in. Here Capt. A. G. Messervy, one of the photographers of the Société Jersiaise (we thought yesterday they could only produce one such artist), marshalled us and perpetuated the group to posterity, and later the Société, as if to make us more in their debt, sent each pilgrim a copy as a memento of this delightful excursion. From Trinity we visited a series of small manors (the real Jersey article this time) under the guidance of the Seigneur of Rozel, who finished what must have been to him a really laborious day by offering us tea on his own fief. After tea, by a happy inspiration, the Rector of St. Martin had arranged to hold in the Seigneurial Chapel the Service of Intercession appointed for this day as the second anniversary of the declaration of war against Germany. The simplicity and the surroundings found their way to the hearts of all, and everyone wished this terrible war to come to an end and peace reign again. When the time came to say good-bye to the Seigneur and Mrs. Lemprière and to thank them for all they had done for us, we realised that this was the last stage of our pilgrimage. Our tour was now at an end, and it was with real regret that we left on the way back. We felt that it had not often been our lot to pass so enjoyable a week. However, we realized that we were in sight of one another, and when the auspicious time arrived we had a few more "bits" in Guernsey still in reserve to make the excuse of another visit from our confrères.

We drove back to the hotel, only to find that owing to (sentence deleted by the Censor) the steamer on which we had expected to sail on the morrow would, regardless of any inconvenience to us, not be running. We of course could only grumble and make the best of it, but if the truth were known, the two extra days were perhaps appreciated equally with those days for which a programme had been made. We

all had something to do, something or somebody to see, something we would like to examine more thoroughly, and so forth, and in our heart of hearts we regretted the boat on the Monday crossed as usual.

The original party who crossed was as follows :—

Col. T. W. M. DE GUÉRIN and	Mr. and Miss STACEY,
Miss DE GUÉRIN,	Miss TOURTEL,
Dr. and Mrs. H. S. WILD,	Mr. A. COLLENETTE,
Miss E. F. CAREY,	Mr. C. G. DE LA MARE,
Mr. and Mrs. F. L. TANNER,	Mr. W. H. PETERS,
Miss AMY COLLINGS,	Mrs. MOORE,

Mr. S. C. CURTIS.

The following joined us later in the week :—

Dr. and Mrs. E. K. CORBIN

Mr. W. ROLLESTON.

The Programme in full was as follows :—

Sunday, July 30, 3 to 5 p.m.—Visit to the Museum of the Société Jerseyaise. Entrance, 9, Pier Road. Tea will be offered in the Library.

Monday, July 31, 10 a.m.—Train from St. Helier to St. Aubin. Walk by Noirmont Avenue to Manor House ... Mr. G. F. B. DE GRUCHY. Hougue du Noirmont.

La Cotte de St. Brelade Dr. R. R. MARETT.

(Lunch at St. Brelade's Bay Hotel.)

3 p.m., St. Brelade's Church and Fisherman's Chapel.

(Tea offered at the Rectory by Rev. J. A. BALLEINE.)

5 45 p.m., Train from Don Bridge to St. Helier.

Tuesday, August 1, 10 a.m.—Leave St. Helier for—

St. Saviour's Church... .. Rev. CANON LUCE.

La Hougue Bie Mr. E. T. NICOLLE.

St. Martin's Church Rev. G. P. BALLEINE.

Dolmen de Faldouet... .. Mr. J. SINEL.

(Lunch at Elfine Hotel, Gorey.)

3 p.m., Grouville Church Rev. ED. LE FEUVRE.

St. Clement's Church Rev. C. W. BALLEINE.

Dolmen du Mont Ubé Mr. J. SINEL.

Longueville Manor Mr. E. T. NICOLLE.

(Tea offered by Mr. and Mrs. J. J. RICHARDSON.)

Wednesday, August 2, 9.30 a.m.—Leave St. Helier for—

St. Ouen's Manor Mr. E. T. NICOLLE.

St. Ouen's Church Rev. J. PEPIN.

Dolmen de Grantez Mr. J. SINEL.

Ruins of Grosnez Castle Mr. E. T. NICOLLE.

(Lunch at Grève de Lecq.)

3 p.m., St. John's Manor (La Hougue Boëte) Mr. A. RAWORTH.

Kist (Tête du Fief).

St. Lawrence Church Rev. A. O. BALLEINE.

Dolmen de la Ville-ès-Nouaux.

Thursday, August 3, 9.30 a.m.—Visit to the
Hermitage of St. Helier and Elizabeth
Castle Mr. E. T. NICOLLE.

(The Steam Tug will be at the disposal of the Members.)

2 p.m., by Train from St. Helier to Gorey.
Visit to Mont Orgueil Castle Mr. E. T. NICOLLE.

(Tea offered at Gouray Lodge by Dr. and Mrs. CRALLAN.)

8.45 p.m., Conversazione at the Town Hall.

Friday, August 4, 10 a.m., leave St. Helier for—
Trinity Manor... .. Mr. ATHELSTAN RILEY.
Augrès Farm }
La Fosse }
Les Augrès Manor } Mr. R. R. LEMPRIÈRE.

(Lunch in the open air in Augrès Avenue.)

3 p.m., Dolmen du Couperon.
Rozel Manor.

(Tea offered by Mr. and Mrs. R. R. LEMPRIÈRE.)

THE ARCHIVIST.

THE RAINFALL OF GUERNSEY FOR THE YEAR 1916.

BY MR. A. COLLENETTE, F.C.S.

THE year has finished with a slight excess over the average of 74 years. The total is 37·0 inches against the average of 36·6.

The distribution offers some unusual features. The summer months, April to July inclusive, were dry. The deficit of these months collectively was 4·7 in. January was also very dry, contributing less than two inches to the annual total instead of 3·7 in. This year October, which may always be expected to rank as the wettest month, gave only its normal total, and the exceptional place was taken by February, which totalled 6·6 in. against an average of 2·9 in., an excess of 3·7 in. December also yielded over 6 inches or 2 inches over its normal fall. Thus, it will be seen, although the year is practically a normal one the distribution is very abnormal. In the column 6 of the table 1, the differences are made evident. One third of the rainfall of the year fell during the first three months of the year, but inasmuch as January show, as deficit, it follows that February and March were accountable for that. As a rule October and the two following months occupy this place. As far as wet and dry months are concerned, the year is equally divided, six being dry and six wet.

Counted from the point of view of wet days, the year ranks as a wet one, for there were 208 instead of 182, a difference of 26 in excess.

This year the town stations have collected 2% more rain than St. Martin's Road; Hautnez also has an excess of 2%, while the Rohais is 1% lower. The lowest total is that of Mont Saint, which is under 32 in., a difference of 5 in.

Only one drought occurred, commencing at all the stations, on the 17th of July lasting 27 days to August the 12th.

On four separate days, detailed in the table, falls of one inch and over fell at St. Martin's Road. The other stations all had high amounts but did not all reach the inch each fall.

TABLE I.
 RAINFALL AT ST. MARTIN'S ROAD.
 Inches.

Months.	Rainfall.			Greatest fall in one day.		Percentage of Monthly Falls to the year's total.		Wet Days.	
	Monthly Tls.		Differences between Cols. 1 and 2.	Amount.	Day.	1916.	74 years' Average.	1916.	74 years' Average.
	1916.	74 years' Averages.							
January ..	1.9	3.7	- 1.8	0.50	2nd	5.1	10.1	23	19
February..	6.6	2.7	+ 3.9	1.52	10th	18.0	7.4	25	16
March	3.7	2.6	+ 1.0	0.51	14th	10.0	7.1	26	17
April	0.7	2.3	- 1.6	0.15	17th	1.6	6.3	10	14
May	1.1	2.0	- 0.9	0.32	8th	3.0	5.5	17	11
June	1.1	2.0	- 0.9	0.41	4th	3.0	5.4	12	11
July	0.9	2.2	+ 1.3	0.64	6th	2.4	6.2	7	11
August ..	2.9	2.4	+ 0.5	0.31	25th	7.8	6.6	9	12
September	3.1	3.0	+ 0.1	1.95	26th	8.5	8.2	10	14
October ..	4.2	4.9	- 0.7	0.57	26th	11.5	13.4	22	19
November	4.6	4.5	+ 0.1	0.84	17th	12.4	12.2	23	19
December	6.2	4.3	+ 1.9	0.94	29th	16.7	11.6	24	19
The Year .	37.0	36.6	+ 0.4	1.95	Sept.	100	100	208	182

TABLE II.
DISTRIBUTION OF RAINFALL OVER THE ISLAND.—1916.
Inches.

Months.	South & South East.			East.		West.			South West.	Whole Island
	St. Martin's Road.	Les Blanchés, St. Martin's.	Hautnez, Forest.	Villa Carey, Grange.	Colborne Villa, Rohais.	Mont Saint, St. Saviour's.	St. George, Castel.	Cobo, Castel.	Villiaze, Forest.	Means of all Stations.
January	1.9	1.7	1.8	1.9	1.8	1.3	1.6	1.4	1.6	1.7
February....	6.6	6.3	6.9	6.4	6.3	5.9	5.7	6.0	6.3	6.3
March	3.7	3.6	3.8	4.0	3.9	3.5	3.8	3.4	3.7	3.7
April	0.7	0.8	0.8	0.8	0.6	0.7	0.7	0.5	0.8	0.7
May	1.1	1.0	1.1	1.0	1.1	0.9	0.9	0.9	1.1	0.9
June	1.1	1.0	1.2	1.3	1.2	1.1	0.6	1.0	1.1	1.1
July	0.9	0.9	1.0	1.0	1.0	1.1	1.1	0.8	1.1	1.0
August	2.9	2.8	2.9	2.9	2.9	3.3	2.7	2.5	2.7	2.8
September..	3.1	3.2	3.4	3.2	2.9	2.8	2.8	2.8	3.2	3.0
October	4.2	4.1	4.7	4.5	4.5	2.8	4.5	—	4.4	4.2
November...	4.6	4.3	4.8	5.2	5.0	4.0	4.9	—	5.4	4.8
December...	6.2	5.5	5.4	5.8	5.7	4.5	5.7	—	4.8	5.4
The Year...	37.0	35.2	37.8	38.0	36.9	31.9	35.0	—	36.2	35.0
Highest	6.6	6.3	6.9	6.4	6.3	5.9	5.7	6.0	6.3	—
Comparison	100	94	102	102	99	86	94	—	97	—
Observers ...	Mr. A. Collenette.	Mr. B. Rowswell.	Waterworks Co.	Dr. F. Carey.	Mr. T. Guilbert.	Major S. Carey-Curtis.	Rev. H. Stevens Guille.	Mr. H. I. Jones.	Waterworks Co.	Means obtained from the monthly totals shown in the table.

WET DAYS.

The Year ..	208	197	201	208	231	180	—	—	201	—
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FALLS OF ONE INCH AND OVER IN ONE DAY.

Feb. 10th ..	1.02	—	—	—	—	—	—	—	—	—
Aug. 28th ..	1.15	1.08	—	1.14	—	1.31	—	—	—	—
„ 29th ..	1.03	1.11	1.60	1.00	1.53	1.30	?	1.34	1.38	—
Sept. 26th ..	1.95	1.80	1.97	1.94	1.57	1.82	?	—	1.82	—

THE SUNSHINE OF GUERNSEY FOR THE YEAR 1916.

BY MR. A. COLLENETTE, F.C.S.

THE distribution of sunshine, as regards the monthly totals, offers some unusual features.

The first three months of the year were all below their averages, so that collectively there was a loss of 73 hours. April on the contrary was very sunny and exceeded its average by 40 hours, and reduced the accumulated deficit to 33 hours.

The next three months, May, June and July, each showed a deficit of which June's was the greatest with 36 hours and collectively reached 60 hours. August gained seven hours over its average. September and October both proved months with deficits, amounting to 57 hours. November was normal and December showed a gain.

The year, therefore, was behind the average all the year through the gains being insufficient to bring the total, at any time, up to the average.

With the exception of April and December the months have been characterised by deficient sunshine.

It will be remembered that I drew attention to the fact that June, both in the actual totals of the years and in the averages, seemed to occupy a lower position than its place in the solar year demanded, and I promised to investigate the matter and discover if the deficit was the result of the arbitrary divisions of the calendar year or a real phenomena.

That I have done, but I have found it difficult to work the solar year while retaining the positions of the months in the calendar year.

The plan finally adopted, as the one introducing fewest errors, was to make the year start from the shortest day in December to the longest day in June, giving 30 days to each month and placing the odd days in December and January, for at that period of the year the daily sunshine is so small that these days do not affect the main issue. So arranged, the position of June in the averages works out as high as May,

but lower than July, hence the question is not satisfactorily answered, as July should show the beginning of the decline of the sunshine of the year. June does show, by every arrangement, a position lower than its theoretical one.

By ignoring the calendar altogether and dividing the year into eleven months with June consisting of 15 days on each side of the longest day, we bring the disorder into correct relation with the facts, but it is no longer June.

The year as a whole is below the average.

The early half of the year, although below the normal, was not seriously so, but the summer and autumn was, and had it not been for December's excess the total for the year would have shown badly.

The total, 1,789 hours, is 104 hours below the 23 years' average, 1,893. Only one record has been broken, that of December, in which month the previous highest of 71 hours was exceeded by 9 hours and the record raised to 80 hours.

Although April did not reach its previous record, its large total as compared with March is worth of mention. March fell short of 100 hours, and April reached 238, a difference of 141 hours instead of the normal increase of 60 hours.

The sunless days numbered 57 instead of 46, for which increase February and March were chiefly responsible.

From the agricultural point of view April may be said to have saved the year from disaster, for had it not counteracted the cold and gloom of the preceding months, vegetation would have suffered a very serious check; as it was, the early crops were lessened in weight and value.

TABLE I.

DURATION OF SUNSHINE AND

Campbell-Stokes

Months	SUNSHINE.								
	Monthly Totals.		Nearest Hours.		Percentages of the Possible.			Mean Daily Values.	
	1916.	23 Years' Averages.	Highest on Record.	Lowest on Record.	1916.	23 Years' Averages.	Highest on Record.	1916.	23 Years' Averages.
	1	2	3	4	5	6	7	8	9
January	48	57	82	28	28	21	30	1.5	1.8
February ..	64	84	119	45	22	29	40	2.2	2.3
March	97	141	228	84	28	39	62	3.1	4.5
April	238	198	261	129	58	48	63	7.9	6.6
May	226	246	339	184	47	52	72	7.2	7.9
June	205	241	314	192	43	51	65	6.8	8.0
July.....	263	264	382	187	54	54	78	8.4	8.5
August	247	240	326	186	56	54	74	7.9	7.7
September ..	161	187	269	107	42	51	72	5.3	6.2
October	87	119	159	111	23	37	48	2.8	3.7
November ..	73	69	113	40	27	25	42	2.4	3.3
December ..	*80	47	71	18	29	18	29	2.5	1.5
The Year ..	1789	1893	2215	1691	40	42	50	4.8	5.1
Highest	263	264	1899		58	54	73	8.4	8.5
Lowest	48	57		1913	22	18	29	1.5	1.5

* New Record.

TABLE I.

PREVALENCE OF CLOUD.

Instrument.

SUNSHINE.			Sunless Days.		Sunniest Days.			CLOUD.	
Differences of 1916 from Averages	Proportion of Monthly Totals to the Year's Total.				1916.		Previous Record.		
	Hours.	1916.	23 Years' Averages.	1916.	Averages.	Duration.		Day.	1916.	Averages.
10	11	12	13	14	15	16	17	18	19
— 9	2·7	3 0	10	10	6·3	29th	8·5	6·7	6·6
— 20	3·5	4·4	10	6	7·6	5th	9·8	6·2	6·2
— 44	5·5	7·4	11	3	8·8	4th	11·8	7·0	5·5
+ 40	13·4	10·4	2	1	13·0	29th	13·6	4·5	4·9
— 20	12·8	13·0	0	1	14·5	18th	14·7	5·5	4·6
— 36	11·4	12·9	0	1	14·1	10th	15·6	6·0	4·9
— 1	14·7	14·0	1	0	14 1	30th	15·5	3·7	4·6
+ 7	13·8	12·7	1	1	13·9	1st	13·9	5·0	4·6
— 26	8·9	9·8	1	4	12·0	7th	12·8	6·0	4·6
— 32	4·8	6·3	6	4	8·8	21st	10·8	7·6	5·8
+ 4	4·1	3·6	8	7	7·0	15th	8·8	6·9	6·5
+ 33	4·4	2·5	7	11	6·6	2nd	7·9	7·3	5·9
— 104	100·0	100·0	57	46	May 14·5	—	—	6·0	5·4
— 44	14·7	14·0	11	11	May 18 14·5	—	15·6	7·6	6·6
— 1	2·7	2·5	—	—	—	—	7·9	3·7	4·6

WORDS PECULIAR TO OUR INSULAR DIALECT NOT FOUND IN ANY GLOSSARY.

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—o—

WE are fortunate enough to possess an excellent, though by no means complete, dictionary of words peculiar to our insular dialect, by our poet and scholar, the late Georges Métivier, Esq. Mr. E. D. Marquand, A.L.S., has traced the names of several plants, animals, insects, &c., *vide* "Transactions" 1905 and 1908, and Mr. Hocart has furnished us with many proverbs concerning the weather, "Trans." 1906.

As the English language is rapidly replacing our patois, many words and expressions will be lost for ever, and we ought to save what we can before it is too late. The following words, names and phrases, which, by-the-bye, must again, by no means, be considered to be an exhaustive list, have, as far as I know, never been recorded. A few years ago, with the help of several friends, many of whom, alas! are no more, I collected the names of the rocks, bays, &c., encircling the islands of this bailiwick ("Trans." 1898, 1902 and 1903). In the latter case I was able to trace the meaning and origin of many of them, and to show their affinity with many other languages, ancient and modern; but in the present instance the difficulty is much greater, and the origin of many words seems to be wrapped up in complete obscurity. In some cases, however, it is easily traced, and it is hardly necessary to add any note or comment.

I have also collected a few old christian names and surnames, some of which are to be found in old documents, and others have been handed down from our ancestors.

ABBREVIATIONS.

<p>A. sax....Anglo saxon. Adj.Adjective. Ar.....Arabic. Br.Breton. Ch.....Chaldee. Com.....Compare. Conj....Conjugation. Dan.Danish.</p>	<p>Heb.Hebrew. Fr.French. O. fr....Old French. N. fr....Norman French. Eng.English. Fig.Figuratively. Ger.German. Gk.Greek.</p>	<p>Inf.Infinitive. It.Italian. Lit.Literally. Pr.Pronounced. Syr.Syriac. Sp.....Spanish. W.....Welsh.</p>
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- Abiausir.** To improve, get fine after stormy weather; *biau* is Fr. *beau*, fine.
- Achie.** A period of time not necessarily painful but often used in that sense. Compare the two phrases "Une achie d'mà es dents, Fit of tooth-ache," "Nou faisait chena une achie pas à c'ht'heure, That was done formerly but not now."
- Actionnaïr.** whence action. To summon, sue, whence summons, act of court; Fr. *actionner* has the same sense.
- Affolaï.** Mischievous, troublesome, excited (of children): com. Fr., *affoler*, to dote on.
- Affinaïe.** Temporary brightening in the clouds between heavy showers, but an indication of continual rain; Fr. and N. Fr., *fin*, fine, refined; *affinaïr*, to polish.
- Airair.** To air.
- Allant, être en allant.** Fond of going or running about; Fr., *aller*, to go; N. Fr., *allair*.
- Amouareuse.** A tea leaf floating in a cup of tea, supposed to be an indication of having a fiancée in a very short time.
- Aniquaeux.** Otherwise *chafernaeux*, dainty, fastidious. The root of this word might come from the Hebrew or Arabic. Heb., *anag*, to live delicately. The Pual conjugation signifies to be made delicate, to be luxurious, and the Hithpael, to make oneself delicate, to delight or enjoy oneself. The adjective *anag*, delicate, effeminate. In Arabic *ganig* means to be coquettish, and the infinitive of the second conjugation, *tagnij*, to spoil a child by over-indulgence.
- Ancre de quille.** A person that stays a very long time to chat.
- Apprêt.** Dress in cotton goods; Fr., *apprêter*; N. Fr., *apprêtair*, to stiffen.
- Assemblage.** Calculation and collection of Chef-rentes.
- Assauvagi.** Wild, uncivilized; Fr., *sauvage*, wild, unsociable.
- Arroutaïr.** To start running; Fr., *route*.
- Astembriaïr.** Change from the heat of summer to unsettled weather. Lit. to get into September.
- Arrudi, s'arrudir.** Rough, to get rough (of the weather); Fr., *rude*.
- Baté.** A piece of coal that flies from the fire on the rug or carpet, it is formed like a boat and is said to be the forerunner of good news.
- Bavin.** Stuff, nonsense, without meaning, lit. only fit to spit out; Fr. *baver*, to spit.
- Bars, bar.** The hard calcareous skeleton or shell in which our crabs make their habitation generally called *coral*. When cooked part of the substance in this *bar* is called *farce*, especially the brown part. Fr., *farcir*, Lat., *farcio*, to stuff; It., *farsa*, stuffing. The uneatable part is called *bourse*.
- Bayyo or bayo.** A cherry. Eng., *bay*; Fr., *baie*, berry.
- Bec a barre.** Face to face.
- Bas de lune.** "Dark night" opposed to moonlight. Fr., *fin de lune*.
- Bendaïr.** To bait a trap. Com. Eng., *bend*; A. sax., *bendan*.
- Bervé.** A clergyman's written sermon.
- Berdelles.** The ordinary meaning seems to be "broken pieces or strips of cloth." It is also a term used in Serk. Small dried breams. Dan., *beredelse*, dressing, preparation. See my list of the names of rocks. &c., No. 27 Tran., 1898.

- Bernage.** This fr. word, meaning "a heap," is not found in ordinary dictionaries, but it is used in Guernsey. Br., *bern, berna*, a heap, to heap.
- Barme.** Barm, yeast. The root is *bhur*, to start, to be unquiet.
- Barique.** Barrel.
- Bibet.** Trifle. Br., *fubuen, bibyuen*; W., *gwybedin*, a small insect, Gnat. Fig., a small matter.
- Bigachier.** To cut at random. Com. Br., *bigell*, hoe.
- Bond.** Attack, fit. Fr., "par bonds," by fits and starts. Fr., *bond*, leap.
- Boudin.** Bowel, intestine. There may be an affinity with Heb., *badad*, to bind; *beten*, belly. Com. W., *poten*; Eng., *pudding, paunch*; Ger., *bauch*, all expressing the idea of bulging out or protuberance.
- Bourdaïr or bouttaïr.** To sulk. Com. fr., *bouder*.
- Boucailler.** To potter about. Métivier has the word, but does not give this meaning.
- Boucas.** Rubbish. Com. Heb., *buk*, to make empty.
- Bourdounaïr.** To hum. *Bourdon*, a bee.
- Biaze.** Fog, thickness at sea.
- Biête.** Turf.
- Bounnet.** Bonnet. "Il a tête et bounnet," he has an opinion of his own. "Il fait le haut bounnet," he rides the high horse. "Être sous un bounnet," to be very intimate.
- Bouquet.** Gust or puff of wind.
- Bouaillon.** Death rattle in the throat. A sharp sound similar to boiling water. Fr., *bouillir*, to boil.
- Boutchin or boutchinin.** Careless, clumsy work.
- Bractaïr.** Fr., *braque*, a kind of dog. To bark. A. sax., *beorcan, breacan, byrcan*, possibly a modification of *break*, to crack, snap. If the letters are interchanged there would be an affinity between *bractaïr* and *bark*.
- Bran (mains de).** Clumsy hands.
- Brulaïr.** A word used in different senses, e.g., "Le cœur brulaï," heartburn: "Vin brulaï," mulled wine.
- Bruet or Pique.** To wound the feelings of a person. Also "bradins," a form of broad hints.
- Broku, broqu.** A fish dried like conger. Also a kind of shark.
- Brazilier (se).** To worry.
- Brouillon.** Muddle. Fr., *brouiller*.
- B'sais.** Métivier has "p'sais," dried pea stalks.
- Broussepé.** Fr., *rebroussepoil*. A cat's fur ruffled and stroked the contrary way. *Pe* is no doubt Fr. *poil*. O. Fr., *broce, broche*; Fr., *brosse*; Ger., *börste*; com. Eng., *bristle, brush*. The fur becomes bushy. The root is no doubt allied to Heb. *berosh*, tree of the fir kind, pine, hence also a spear.
- Bottin.** A kind of knee cap or wrapper, usually made of carpet, and used by farmers when weeding.
- Bissonnière (faire l'école).** To play truant. *Bisson, bush*; to go among the bushes.
- Buitæurre.** A shoot of no use whatever, springing up from the root of a fruit tree. Fr., *bouture*.

- Buyier, buïer**, whence buyon, buïon. To shout, scream, whence shout, scream.
- Brinballe**. Part of a pump's machinery.
- Caillebottin**. Mackerel sky.
- Caoup de vent**. Inflammation of the eye, blood-shot.
- Caudri**. Singed. N. Fr., *caud*, Fr., *chaud*.
- Caroline**. A kind of strawberry.
- Carterette (à la)**. To be carried by two persons who make a seat by crossing their hands.
- Chanresse**. Fem. of chancre, the well-known Guernsey crab.
- Chinaïr**. To hawk, cry goods.
- Chivet**. The upper, green, or out of ground part of the onion. Eng., *shives*.
- Cinqwell**. Pr. as in Eng., *cesspool*.
- Caboche**. The game of pitch and toss.
- Chattaïr**. To chat.
- Chique**. Large snowflake.
- Chillier**. Slaughter house as well as cellar. Métivier only mentions the latter.
- Chimagrés**. Nonsense, stuff, humbug.
- Chouque**. A term applied chiefly to the roots or stumps of furze after clearing a furze brake. Heb., Ch., and Syr., *shoq*, leg or shank; Ar., *saq*, leg, trunk; Gr., *skellos*.
- Co**. Panier à co. Basket used by fishermen. Crabe à co is a crayfish.
- Collet**. 1. Collar. 2. A kind of wrack, the stalk of the tangon or sea bamboo.
- Cotaï**. Rib. Les cotaïs bas. The ribs bent. A disease supposed to be imaginary. Our local medical men do not believe in it, but old women have been and are still found in the country, who for a small fee pretend to lift up the ribs of the credulous patient and replace them in their natural position.
- Contepette**. Tell-tale, informer. See délataïr.
- Consumption galoppante**. Rapid consumption.
- Coquelin, coqueluche**. Métivier has these words, but I may add that coquelin is generally applied to shells formed like the edible periwinkle, *Trochus lineatus*, and coqueluche to elongated shells similar to *murex erinaceus*. Bivalves like *arca lactea*, which are so numerous on the Herm beach, are called vannets. Coquelin is a name often given to the so-called Pepper Box on Fermain Hill.
- Coste**. Intimate, friendly.
- Courron, couorron**. Round or rump of beef.
- Corbin**. Dirt produced by rubbing the flesh with the hands when in a state of perspiration.
- Couachier, couachi**. To add, carry to account. A term used in the western parishes with respect to interest at the bank. To note it in the bank book.
- Cossard**. The seaweed with a multitude of pods or berries, chiefly used for burning. The *Fucus serratus* of botanists. The pods when gathered at the end of May or the beginning of June contain a viscid substance; they should be slit, mixed with rum and bottled.

This when rubbed on the flesh constitutes an excellent remedy for relieving rheumatism and strengthening the muscles, as I can personally testify. It is a very old remedy and is recommended by some of our local medical men.

Chuerin. "Peis chucrins." Ger., *zuckrig*, sugary, sweet; Fr., *sucre*. Sweet peas for the table, called by some "mange tout." Pods and all are eaten like haricots and French beans, as they contain no parchment. They are somewhat rare, but are still to be found in the country.

Confite. Comfit.

Corset d'œuvre. Knitted Guernsey frock. N. Fr., *ouvraïr*, to knit. Woven vests and stockings are called *au métier*; *corset de dessous* is a waistcoat.

Couvaïr. To hatch. Fr., *couvrir*; Eng., cover.

Couvaï. A heavy, dull, stupid person.

Cotti. Decayed, worn out, putrid, decomposed. Ar., *kata*, to shrink, be contracted, crippled.

Criblaëurre. The thin or weak part of a stocking. Com. Eng., *cribble*, to pass through a sieve.

Culbutaïr. To upset. N. Fr., *butter*, to make to stand; *cul*, end, extremity.

Coulaï. Thin, reduced through age or illness. Heb., *qalal*; Ch. and Syr. *gal*, to be light in weight, to be lighter, to become diminished.

Chtounaïr. To break off shoots. N. Fr., *chton*, shoot.

Crottaï. Muddy.

Cottepiar. To kick.

Cottepiar le bouquet. "To kick the bucket," fig., to die.

1 **Dehalair**; 2 **s'dehailair.** 1 To entice; 2 grow up.

Dégradair. To defame, slander, degrade; also of a road damaged by rain.

Décellavaïr. To throw down. Heb., *duk*, *daka*, to trample down; Ar., *daqq*, to knock, rap; inf. 7th conj., *indiqaq*, to be beaten, pounded.

Deun, deun. Dust of a woolly or fluffy nature. Com. Eng., *down*.

Déganaïr, se déganaïr. To quarrel, scold one another.

Délataïr. To be an informer.

Dinguette or **dinghette** (à la). Neatly and carefully done. A. sax., *dight*, to set in order, arrange; *dink*, akin to *dight*, deck, neatly dressed, trim, tidy.

D'jindaïr, jindaïr. To place or hang a thing out of reach. Fr., *quinder*, to hoist, raise.

Dellien, deyien. Far. Com. Fr., *de loin*.

Dessus. "Temps comme dessus," a continuation of the same weather.

Djoughie, joughie. Jugful, from *djougé*, a jug.

Doublaïre. Lining.

Doullisse. Coddish. There may be some connection with the inf. *taDallas* of the 5th conj. of Ar. *dallas*, to hide one's self. A. sax., to be dull, heavy, without spirit.

Doctrinrie. Medical science.

Doque. Dock. Lat., *rumex*. Docks are always found near nettles; when stung by the latter, take a dock leaf, rub the spot and the pain will cease or greatly diminish.

Digotin. Careless, untidy cutting. Heb., *dhag*, to beat small; *digoentra*, to split, separate with violent effort.

D'visair. To talk.

Démêlaïr. To disentangle, comb out, distinguish. Fr., *démêler*.

Dupaïr. To dupe, take in. Fr., *dupér*.

Deteurse. Sprain. Fr., *de, tordre*; Lat., *torques*; passive of Ar. verb *dath*, to have distorted limbs. Com. Fr., *detourner, détortiller*.

D'lavant. Nearly done.

Ebainair. This word is used concerning linen when it is drained after being hung out to dry; it is connected with *épurair*. Fr., *épurer*.

Ebranc. Scope, liberty, see ligant. An idea of extension. Com. Eng., *branch*; Fr., *branche*; Lat., *brachium*; Gr., *brachion*, arm.

Ebarraïr. Used in the phrase "Ebarraïr les esprits." To cheer up a low spirited person.

Eberdêqui and Emberdêqui. To be caught or entangled.

Echivant. Anything broken or fractured irregularly.

Ecoques. The top part of parsnips and turnips.

Etanquer. To stop a leak. Fr., *étancher*.

Eceruhaïr. To wash calico in order to take out the dress.

Ebuttaïr. To cut off the shoots of a tree, to prune, trim. Fr., *émonder*.

Ecaufin. Redness, slight inflammation.

Egrinflaïr. To scratch. Heb., *garaf*, to seize; Ger., *greifen*; Eng., *grip*; Fr., *griffe*, a claw; *griffer*, to scratch.

Ehiouq. Where?

Enfumâqui. Smoky. Fr., *enfumé*.

Epicure. A person who does unexpected things, a mischievous person.

Epissaire. To separate the strands of two ends of rope and interweave them so as to unite them together. Fr., *épissure*; Br., *spissa*. I understand that "pouessier" is used as well.

Equivalent. Land tax for keeping the roads in order.

Echervelaï. Giddy in the sense of thoughtless. Com. Fr., *écervelé*, mad brained.

Equête. Legacy, windfall, also the falling of a hedge or part of it after rainy weather.

Ecussonair. To bud, inoculate.

Ecailer, s'écailler. Lit. to open as the shell of a fish. Fr., *écaille*, shell. Phrase: "Le temps s'écaillera," the weather will clear.

Elandraï. Lanky.

Escalandraïr. To chastise, keep children in order. Com. Eng., *to school*.

Esellavitude. Slavery. Com. Fr., *esclavage*.

Epitaïr. To take off the stem of fruit (chiefly of gooseberries).

Esparlingui. The Genoese say *sperlengua*. To spread out carelessly in view of everybody.

Eterquillonaïr. To milk a cow to the very last drop. There may be an affinity between *etern*, endless, and Fr., *cueillir*, to pluck, pick, gather.

Extravagui. Bewildered,

- Enteur.** Soaked. In Métivier's Dict. we find "a noc," which has the same meaning. I think *enteur* is a form of *à travers*, through and through. "A noc," allied to Ger. *nass sein*, to be wet.
- Entêtai, s'entêtai,** To be headstrong, obstinate. Fr., *entêté*.
- Etelle du Nord.** The north or pole star. It is the star *a* (alpha) of the Little Bear called *Alpha polaris* by astronomers.
- Etuvaie.** Stew, ragout.
- Ecrainchi.** Out of babyhood.
- Faisant.** Social, pleasant.
- Fantaxe.** Giddy, careless. Com. Eng., *fantaski*; Fr., *fantastique*; It., *fantastico*, unsteady; Gr., *phantasia*, fancy, vision.
- Fi.** Thread, yarn. Fr., *fil*.
- Fermine.** Wardrobe.
- Fiehu.** Humbug, good for nothing.
- Fllanc, flanc.** Flank.
- Fielle.** Cake tins of different sizes.
- Farce.** See bars, bar.
- Fauchi.** Cut down, dying suddenly.
- Fllotton, flotton.** Fishing line made with hair and used when the boat is in motion, otherwise it would sink and be lost. Fr., *flotter*, to float. "Nœud de flotton." To knot the two ends of the fishing line together, two slip knots are made, one with each end, then the two ends are pulled in opposite directions, the two knots unite and form one single noose which it is impossible to break.
- Fontaine.** Ma(l) de la fontaine. A swelling supposed to be cured by washing it with the water of a certain fountain.
- Fouaille, fouaie.** Bonfire.
- Fret, frette.** Truss for ruptures.
- Fro.** Frock.
- Franc.** The Fr. "jusqu'à," as far as. Com. Fr., *franchir*, to jump over, break through, traverse.
- Franscaillerie.** Of French origin. Com. *Angllétin*. Terms of contempt.
- Ouir ferme.** To be deaf. An expression in the western parishes.
- Frustraïr.** Fr., *frustrer*, to disinherit.
- Gâchier (se).** Lit. to form a cake: said of fine coals that have been previously moistened and afterwards put on the fire. N. Fr., *gâche*, cake; Fr., *gascher*, to soak.
- Gâche à lait sûr.** Métivier does not mention this although he speaks of "gache détrempaie." Cake made with sour or butter milk (sweet milk has been occasionally used). Currants, carbonate of soda, &c., are added.
- Gazettaïr.** To insert in the *Gazette*.
- Gaiété, gaité.** Pr. like the Eng. *guyté*, *gyté*, would be pronounced if such a word did exist. The finger of a kid glove worn over a rag tied round the finger in the case of cuts and burns.
- Guervaïr.** To vex, annoy, take a thing to heart.
- Guervance.** Annoyance, grievance.
- Gensaïr, se gensaïr.** To put out of the way, to put one's self out of the way.
- Goutte.** Used in the phrase "N'oun ve'goutte," it is quite dark.
- Gouliot.** A small sea bird. A Serk term. See my list of words. Serk section, No. 1,109, p. 336, *Trans.* 1898.

- Gnignot.** Simpleton. Fr., *niais*.
- Gouffrair.** To eat like a glutton. Fr., *gouffre*.
- Gofiche.** The black part of the ormer; when it is cooked it resembles and tastes like the limpet. Some people throw it away, but it is nevertheless a delicacy. N. Fr., *gofiche*, ormer. This may have given the name to one of the rocks near Fermain Bay. See my list of names, *Trans.* 1908, page 300.
- Grattepi.** Scraper, Fr., *gratter*; pi or pid is Fr. *piéd*.
- Guindages.** Affair, opportunity.
- Graïe.** Clad, also "done for." Te v'la graïe, you are done for.
- G'vette, agvette.** The worst or finishing of a thing.
- Grattin.** Lit. scrapings, but fig. property. "Mon grattin," what I leave behind me.
- Grattise.** Grater. Fr., *gratter*, to scrape; *rape*, grater.
- Guette, ghette.** A swelling, kind of abscess.
- Guettaïr.** To watch, wait for. Fr., *guet*, watch. "Être aux aguets," to lie in wait.
- Guernesaise.** Guernsey lily, *Nerine sarniensis*. For an account of this plant see Berry's History of Guernsey, p. 308, and Mr. Marquand's Flora, p. 31.
- Genêt.** Vert genêt, Butcher's broom, *Ruscus aculeatus*. If some part of the plant is carried on one's person, it will prevent the witches from using their magic powers.
- Guerdi.** Grizzled.
- Haguin, hagogin.** Chopped, hacked, but carelessly and slovenly. Fr., *hacher*.
- Hernaï.** Worn out (of a pen nib).
- Hauche.** Height of the sun.
- Happaïr.** To seize, clutch, snatch. Fr., *happer*.
- Hantaïr.** To frequent, keep company with a person.
- Habitshirt, habitsheurte.** The front of a white shirt usually worn over a flannel one.
- Hersaïr.** To neglect a cold and let it get worse.
- Hapintoule.** To cobble, mend clumsily. Com. Fr., *happer*, to nab, catch, lay hold of. Br., *toul*, hole.
- Houmarde.** Hen lobster,
- Iêge, liêge.** Cork. Fr., *liège*.
- Iégou, légou.** Fr. the *ou* as the Eng. *ow* in the word *how*. Fibrous, of turnips, radishes, &c. The *g* is soft.
- Ief, llief.** Roof. A. Sax., *heraf*, roof.
- Iaue.** Coupe à iaue, small rain clouds crossing the upper clouds; they indicate wet weather.
- Ivraye, ivraie.** I am indebted to Major Curtis for this word. A seaweed with long stalks like a vetch of various colours, *Halydris siliquosa*.
- Jab, djab.** Job. In some parts of England, *gob* means a lump, portion; *jobbet*, a small load.
- Journieux.** Day labourer. Métivier has *journieur*.
- Jammair, d'jammair.** To jam, press, wedge, squeeze tight.
- Jeur.** Space, dawn. Fr., *jour*.

Lettuche. Lettuce.

Laurier, lôrier. A game called "Mon bon lorier."

Lattair. To beat with a stick.

Lattes. Laths. Fr., *latte*; It., *latta*, a pole.

Lefton. Fr., *lever, levain*. A liquid formerly used as leaven for raising dough.

Lettres. The soft roe in mackerel, herrings, &c. The hard roe we call *œuvres*.

Limon confit. Candied peel.

Louainair. To delay, loiter, take one's time, lounge.

Larron. Lump or defect in the wick of a candle.

Litai. Heavy, not risen (of bread and cake). Alitai is bedridden. Fr., *alité*.

Ligant. See ébranc and my list of names (Trans. 1898, No. 144 and Addenda, Trans. 1903).

Mabé, mabet. Fellow (in a despicable sense). Com. Br., *mabden*. Any individual whatsoever.

Môdale, maudale. Mopish.

Mouchelaïe, Bundle tied up in a handkerchief. Fr., *mouchoir*.

Marte. A fatal complication of confluent smallpox. Full eruption of the whole body. Perhaps blue or livid spots on the skin. It is difficult to trace the correct signification of this word.

Martine or piqueux. A fish often mistaken for the sand-eel.

Marette. Puddle.

Merqueresse. An instrument for marking butter, butter stamp. Heb., *maraq*, to print; O. Fr., *merquer*; Ger., *merken*.

Midi a quatorze heures. Fig., an untruth.

La petite St. Michel. The seventh to the tenth of October. If an easterly wind predominates at this period it will come from that direction during three-fourths of the year.

Mié matin. Lunch of working and country people between breakfast and dinner.

La mair à bère. To drink the sea. Fig., a difficult or impossible undertaking.

Mal au cœur. Nausea.

Mogue. Mugful. N. Fr., *mogue*.

Miron. A wonderful thing.

Mitonnair. To simmer.

Mol. Heavy, without life.

Motte. Silence! not a word!

Mourants (Mouarants) l'âne des. The name given to an apparition said to have been seen in that part of St. Andrew's. Some have called the spot "Coin à la biche."

Navire. Pieces of bread and butter with a thin slice of meat between them smaller than sandwiches.

Nivlotin. Easy work.

Le petit nom. The baptism of a sick child at home.

Nu. Used in the phrase, "I n'y fait nu," it is impossible to stand it, *i.e.*, under rain or in the cold.

Nuard. A black, threatening cloud.

Niétie. A night long.

Nouachons. Untidy, clumsy knots.

Plein nœud. Reef knot. I owe this expression to Mr. Curtis.

Es orties. A term used of a fowl that hatches outside and returns with a brood of chickens.

Œil de bœuf. The fragment of a rainbow on the horizon indicating stormy weather.

O en chiffre. A useless person.

Ofette. Skilful, clever. Perhaps from Fr., *au faite*. To be at one's zenith.

Olleure. Soon, presently. Probably Fr., *à l'heure*.

Ossier. A bone setter.

Ossailles, aussailles. The ribs and other lean parts of pork preserved with salt. Probably from Fr., *os salés* or *au sal*.

Panais à la graisse. Parsnips cut very small and eaten with meat (the brisket as a rule). A well-known dish among our country people.

Se papinotair. To take plenty time to dress one's self, fidget about it.

Papillotin. See *nivlotin*.

Passe rose. Hollyhock.

Pâtichier. To make pastry. Fr., *pâte*. Fig. in phrase "rude pâtichier," rough, sullen fellow.

Se paquer, s'en allair. To go away, depart. Fig., to die.

Peetchow. Fr., *pieds de chou*. Cabbage stumps.

Peis qui ne cuisent pas. To sell a person peas that cannot cook is a fig. expression for offending, annoying someone. It is otherwise expressed by "r'gardair de travers," to look with an evil eye.

Pllataïne. School playground, also hanging plate.

Pain de froment. Good time.

Pliffe. A kind of nerve in meat or suet which cannot be cut. Com. Eng., *ply, plait*.

Pepionnair. To be annoyed, vexed, impatient when kept waiting.

Pedoo, tire pedoo. A phrase used in amusing children and pretending to shoot.

Persent. The white marks or spots that appear on the finger nails; the present is supposed to come when the nails are pared.

Pims, pimps. Pimples on the face.

Poussette or mirousse. Pussy.

Piaucotair. To chew, nibble (of people without teeth).

Picotair. To prick out.

Pique. See *brûlet*.

Piquelle. A fatal complication of smallpox. Minute pustules, somewhat resembling pin pricks, here and there on the skin.

Piqueux, See *martine*.

Piaudair. To rob, defraud, take undue advantage of a person.

Pllumair. To feather. Fig., like *piaudair*, to overcharge.

Poupou, poupin. Silly fellow, baby.

Pilair. To tread on.

Porta. Passage, hall of a small house. *Alläe* means "landing."

Pllant, piant. Fellow; "mauvais" or "drôle de pllant," wicked, funny fellow.

Plotte, Stupid person.

- Plottin.** Pin cushion.
- Pont sur rouelles.** Bridge on wheels. Unsteady, insecure prop or scaffolding.
- Pouachins.** The Pleiades. Group of stars in the constellation *Taurus*.
- Poumaïr.** To come to a head, turn (of cabbage).
- Poutrichier.** To touch continually, touch meat or food with hands which may not be very clean.
- Pres.** Flower garden.
- Prie Dieu.** Part of the note of the song thrush.
- Querbon.** Carbuncle.
- Querton.** A miser. After fresh lard is melted, the remaining small grizzled pieces are called "quertons" and are very good when fried.
- Quiavelaïe.** Confluent smallpox.
- Querterie,** Cart house.
- Quqier.** To keep the nest (of a fowl that wishes to hatch. I understand some say *aququier*).
- Quillette.** A collection or subscription. Com. Fr., *cueillir*.
- Qooiotaïr.** To crouch, lie down.
- Queriot.** "The Plough," "Charles' Wain." The group of seven stars in the constellation *Ursa major*. or Great Bear. They are called the *Dipper*.
- Querwaïsie.** House built in a transverse form, at right angles. A wash-house is sometimes called by this name. N. Fr., *querwaïsier*, to cross.
- Quernelle.** Cinnamon.
- Queavaeurre.** I am indebted to Mr. Curtis for this word. He says it means "a short bend" (kind of knot).
- Racoin.** An out of the way corner.
- Raprême.** Au raprême. Only, at last.
- Ralouagnier.** To lengthen (of tea chiefly, when you continually pour boiling water on the leaves without making fresh tea).
- Rabblanchie.** A temporary improvement during a severe illness ; it precedes the last stage in consumption.
- R'binfier, se r'binfier or r'binflair.** To rebel, oppose, brave it out.
- Raisin.** Pimple or scab on the lips, so called on account of its appearance.
- Raccouchier.** To shorten. Fr., *raccourcir*.
- Rassiétin.** Dregs. Com. Fr., *rassis*, from *rasseoir*.
- Rensaquer.** To jerk.
- R'butaïr.** To be refused an offer of marriage.
- Rencouvin.** Closeness, stuffy atmosphere.
- Rente d'Aurigny.** A term used of money due at some future time, but often used ironically, e.g., "I shall pay you when I receive my Alderney rent," i.e., never.
- Rislaïe.** Fun. Fr., *rire, ris*, to laugh, laughter.
- Renversaïr.** To upset, also to vomit.
- R'las.** Rest, temporary cessation.
- Raptichier, also aptichier.** To shorten.
- R'levin.** Seed that springs up out of season. It may have been sown in spring, but appears in summer or winter. The term is applied both to weeds and vegetables.
- Rentiraïr.** To darn the heel of a stocking.

- Rouabllair.** To be enraged, also to growl like a dog.
- R'doublair.** To begin over again (chiefly of a cold before it is cured).
- R'cordair.** To repeat some lines of a hymn.
- Renfredduraïr, refredduraïr.** To cool, to be chilled.
- R'di, se r'di or r'dir.** To stiffen, stiffen oneself.
- R'chu volant.** Fr., *reçu*. A receipt for Rentes but not written in the ordinary receipt book (*livre d'acquit*).
- R'neuchounair.** To attend church the first Sunday after marriage. N. Fr., *neuches*; Fr., *noces*, wedding. The young married people are called *r'neuchon*.
- Rouflair, routair.** To purr (of a cat).
- R'nufflair.** To sniff.
- Rouleau.** Dumpling (plain). *Bourde* is an apple dumpling.
- Riffe.** A small grindstone. Fr., *riflard*, a kind of file.
- Roué.** The king butterfly or Red Admiral, *Pyramis atalanta*.
- Les très (trois) roués.** A name given to part of the constellation Orion. The three higher stars are thus called, and the three lower ones in a contrary direction and somewhat obscured by a *nebula* are called *Les très (trois) valets*.
- R'quéyant.** The waning moon.
- Rodaïr.** To rove or prowl about.
- Rousaïr.** To drizzle, akin to *broussaïr, brousse*.
- R'suement, ressuement.** Chiefly of the moisture on panes of glass. Fr., *ressuer*, to sweat.
- R'traite.** Fr., *retraite*. The state of the oven after the bread has been taken out. "The apples of la retraite." Baked apples replaced in the warm oven and left till morning.
- Saignie.** The sticking piece (of meat). See also my list of words. Serk section, *Trans.* 1898, Nos. 1,074 and 1,158, and Addenda, *Trans.* 1903.
- Saluette.** The front part or rim of a man's cap, the peak.
- Sap.** Wood, chiefly pine.
- S'aviellotaïr.** To look or grow old.
- Serveille.** Christmas Eve. The evening before is called "longue veille." The country people as a rule used to eat Guernsey biscuits and drink mulled wine during that evening. La serveille was a time for walking through the streets of the town.
- Sérant (à la).** During the evening, or by twilight.
- Siete.** Following. Fr., *suite*.
- Sintair.** To run slightly (of a wound that does not heal quickly). Fr., *suinter*, is used in the same sense.
- Scabriou.** The *ou* must be pronounced like *ou* in Eng. *out*. Frail, fragile. Eng., *scabrous*; Fr., *scabreux*; Lat., *scabrosus*.
- Sie.** Pronounced like Eng. *see*. It is the Fr. *chez*, at the house of.
- Skaïne.** Skein.
- Souaris.** Fillet of beef, so called on account of its tenderness.
- Sourichière.** Mouse trap.
- Sodome, sabbat.** Noise, hubbub. Br., *sabat, savat*, noise; *savata*, to make a noise. It is derived from a custom among the Jews who shouted with all their might in their synagogues on the Sabbath day, although the custom was quite the opposite of a day of rest. However, *sabbat* is used in Fr. Uproar, tumult.

- Souajin, souagin.** The *g* is soft. Thickness that rises in the atmosphere after fine weather.
- Soudard.** The moving sparks on brown paper immediately after burning. They give the idea of rows of soldiers moving about.
- S'maine des très (trois) Jeudis.** The week containing three Thursdays. Fig., never.
- Son.** Country dance with music; the performance was usually held at public houses during the holidays.
- Soriller.** To move a thing continually while it is drying.
- Sounneux.** The drone fly, *Eristalis tenax*. When it comes into the house it is the harbinger of good news.
- Sparabile.** Small nails under boots and shoes. Eng., *sparable*.
- Tactair.** To lock.
- Turbette.** The drunkard's glass or liquor, otherwise called *dram*.
- Tiné.** Embarrassment, noise, affair.
- Toab, tobe.** Pr. as in Eng. Phrase: "I dort comme une tobe." He sleeps soundly like a top.
- Traffi.** Goods, property.
- Tricotin.** Virginian stock.
- Tisaïr.** To tease, annoy. A. Sax., *teezen*.
- T'chaini.** China ware.
- T'chien.** A dentist's instrument for extracting teeth.
- Tistonair.** To fidget.
- Tropllain.** Fr., *trop plein*. Excess, overflow of water.
- Troude (les) and le Pendant.** Pr. Troude like the eng. *trout*. Names of the lanes leading from St. Martin's church to town by way of Havilland.
- Toosemouque.** Meddlesome.
- Trousse, trique.** Trick, bad turn.
- Troins.** The *oi* is to be pronounced like the *oi* in Eng. *coin*. Botheration, vexation.
- Twaquer.** To tumble.
- Vaine.** Vein. "Vaine de loup," a fungus called by some "Puffball." The botanical name is *Lycoperdon*. It is found in meadows, pastures and the borders of corn fields. The interior contains a powdery mass of threads, and it is very useful for staunching blood.
- Vaine.** (Il est dans une bouane vaine). Proverb: He is in a good mood.
- Vadelair.** To smear.
- Vêquesse, Camp Ia.** This is a locality in the lane leading from the Bellieuse to the lower Hubits. La Vêquesse is the name of a person found dead in bygone times.
- Vlin, v'lin.** No doubt a form of *levin*, small weeds, best destroyed by stirring the ground.
- Vraic.** Sea weed. Fr., *varech*. "Vraic v'nant," wrack cast on the beach during storms; "Vraic à la poche," cut sea weed, formerly carried in sacks, whence the name.
- Visite.** A woman's silk cape.
- Visitair.** To visit one's neighbour.
- Vainaïr, vaimaïr.** To sprout.
- R'vaimaïr.** To sprout again instead of ripening fully.
- Vie.** Pr. as in Fr. A quick and somewhat involuntary movement of the eye.

Vent d'amont. Easterly wind.

Vent d'Ava (1), Westerly wind.

Vent de suez (suée or suède). South-east wind.

Gris vent d'amont. Easterly wind, but dull, cloudy weather.

Winvier, Quinvier. To loiter. Fr., *veiller*.

Becquet. A place situated between Icart and Petit Bot. See *Trans.* 1898, List of Names, Nos. 23, 516.

Souffleur, Souffieux. Situated opposite le "Tas Pois d'Aval."

La Cave Victor Hugo. Before the poet named this cave it was called "Le creux à coups marants." No. 1,094. Br., *mar*, numerous, frequent. Perhaps the cave where the sea strikes rather violently and frequently.

Minquiers. A group of rocks situated southward of Jersey. Br. and W., *min*, point, edge. The Keltic root *quier, querr*, signifies a rock.

Paternosters or **Pierres de Lecq.** A rocky group nearly abreast of Greve de Lecq, Jersey. Heb., *luach*; Br., *lech, lecq*, rock. Com. also *cromlech*.

Ecréhos. These rocks lie N.E. of Jersey. The Keltic root *crehou* signifies "height," and the prefix *e* would be the 3rd person plural.

Dirouilles. Situated 3 miles west of the Ecrehos. The word is sometimes spelt Drouilles. Taking "Dirouilles," *di* would have a privative meaning. Br., *railher*, to roll, to flow back. The idea may be that the tide cannot go any further.

Roches Douvres. A well-known dangerous rocky ledge. N. Fr., *douvre*, reservoir, receptacle of water. Allied to Br., *douvez* or *douves*, pit, trench. Pits, trenches of water.

There is a rock at Jerbourg quite near the ruins of the old signal station, in the neighbourhood of Doyle's Monument, where it is said the devil laid his hand, and as a proof the marks are pointed out

"Le Ricou" (33), in a line with "La Rocque au Piègne" (36), and "Les Apotres" (77), between the two heads of "La Guérande" (84). Also "Longue Pierre" (75), between the "Terres Point" (15), and "Castle Cornet," and the summit of "La Guérande" (84), in a line with a yellow spot in the cliff above "Vaubête Bay" (86) (see my list of names, *Transactions*, 1898) are marks for spots noted for whiting in ancient times.

I may add the following proverb used in the western parishes: "Fin nord, épais sud fait ls mare à lu. Fin sud, épais nord fait le marinier entrer dans son port." Clear weather in the north, cloudy in the south, brings a pool of water at your door. Clear in the south, cloudy in the north, makes the sailor enter into port.

Christian Names of Men and Women

Formerly used in the Island, collected from public and private records or handed down from our ancestors. A few marked with an asterisk are still occasionally used.

MEN.

Ambrose*	Bastien	Bernard
Allès	Brandein	Barnaby
Amice*	Bertram	
Aubin	Benoist	Chrestien
Augustin	Baudin	Cosmes
Amelot	Blaize	Clement*
Amellin	Bryan	Cardin
Aubert	Bertin	Chauff

Christophe	Gallicien	Oste:
Charlet		
Collas	Hellier	Perrin
Collin	Hyllaire	Perrot
Coluet	Hervey	Prejean
Collinet	Hamon	Philippot
	Hyon	Philippin
Damien		Pajeot
Dominic	Justin	Pinet
Denis*	Jaminot	Philémon
Drouet	James*	Paquerel
	Jacquet	
Edemond	Jehan	Ranulphus
Edouard	Jehannet	Radulphus
Emet	Jannin	Rauf
Esnoc	Jaspart	Regnauld
Eustace	Jullien	Raullin
	Jovin	Réné
Flocell	Jourdain	Rollet
Fyacre	Jouaschin	Robin
Faüste	Josselin	Ricart
Fauk	Justien	Renouvet
Fennatin	Journyn	Rogier
François*		Robinet
Flacet	Lubin	Roc
	Laurens	Roger
Geffroy	Léonard	Rouget
Gyffré	Lucas	
Guyon	Louis	Samson
Guilbert		Servaes
Gervais	Massi	Servais
Girard	Mahy	Siméon
Giret	Marin	
Gyresme	Martin*	Thommelin
Girosme	Mauger	Tristan
Gratien	Magloret	Toussaint
Gautier	Maurice	Timothée
Germain	Matheliu	
Gilles		Vincent*
Gaspard	Noel	Valentin
Guillot		Vital
Gringoire	Ollivier	
Guillotin	Osmond*	Yvon
Gacien	Osyas	

WOMEN.

Agnotte	Bertine	Claire
Annotte	Ertienne	Catheline
Allise	Blaisette	Carterette
Allichette	Bénoïste	
Avice		Damaris
Aviste	Collette	
Ameline	Colliche	Emyne
Amic	Collenette	Ellenor
Auriane	Clemence	
Audrie	Cecille*	Flourie
Alianor	Cyceley	Françoise
	Catto or Cato	
Bertranne	Christine*	Girette
Barbe	Cardine	Guillemine

Guillemette	Luce	Perronelle
Georgette	Lucasse	Philippine
Germaine	Lisabeau	
Goton	Laurence	Rose*
		Regnaulde
Henrye	Mahault	Richarde
	Magdelaine	Robine
Isabeau	Michelle	Renée
Isabel	Mariette	Rauline
	Marion	Roberge
Jenette	Martine	
Jehannette	Marto	Simonne
Johanne	Maciotte	Siméone
Jeanne	Massye	Soremonde
Jacquine		
Jacqueline	Noelle	Thomasse
Jacquette	Nanon	Tassyne
Jamette		Tiennotte
Jeanton	Orengé	Tiphaine
Jeantonelle	Olympe	Thoumine
Justine	Oriane	
Jovelta		Urselley
Jouanne	Perrine	
	Perrotine	Venisse

The following **Surnames**, for some of which I am indebted to Major Curtis, seem to be extinct in the male line.

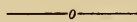
Blanche	Fradin	Le Manquais
Bonamy	Fautrart	La Père
Bredthaft		
Baudain	Grenager	Pradon
	pr. Guernaga	
De Beauvoir		Reserson (the Guernsey
D'Auvergne	Hallouvis	form of Richardson)
De La Combe	Huet or Hué	
De France	Huyvet	Savari
De Quetteville		Slole or Slowley
De Vic	Lauga	Sohier
De or Le Calais	Litton	
De Rosel	Lohier	Tourgis
	Le Claire	Tiault
Effard	Le Clerc	Tirel
Etur or Estur	Le Retilley	Thoumes

Many more names might be added but I find it unnecessary to lengthen this MS., as they are to be found in the indices of "Les Actes des Etats" (3 vols., 1661-1815, Guille-Allès Library). They comprise lists of Jurats, Rectors, Constables and other officials and inhabitants of the island.

R. H. T.

THE WEATHER OF THE BAILIWICK IN 1916, WITH TABLE OF THE SARK AND ALDERNEY RAINFALL.

BY BASIL T. ROWSWELL.



INTRODUCTORY.

	TEMPERATURE.		RAINFALL.		RAIN DAYS.	
	Actual. deg.	Normal. deg.	Actual. in.	Normal. in.	Actual.	Normal.
1916	50·8		35·03		197	
1915	50·5	51·2	41·82	34·57	189	203·1

THE excessive total of rainfall with which both the year 1914 and 1915 ended was not repeated in 1916. True, in the first three months the conditions seemed to be again shaping to that end, for March went out with the year's total to date no less than three and a quarter inches in excess of the normal. Dry weather, however, set in with April and ran on without break until the last week in August, when not only was the March surplus wiped out, but there had grown up a deficit amounting to two and three quarters inches. In a couple of days (August 28 and 29) some very heavy rain quickly reduced this figure by as much as 2·19 in. and the month went out registered as "wet." The better part of September was dry, but the closing days gave an abundance of rain which, as in the case of August, turned it into a wet period. This end of September rain (it began on the 26th with the by no means insignificant downpour of 1·80 in.) really inaugurated the rainy season, for with the exception of about a week of dry conditions towards the middle of October and another at the end of November and beginning of December the weather remained unsettled, and the year went out with a surplus of roughly half an inch, for which December, a very wet month, was responsible. In 1914 the surplus was five and a half inches and in 1915 seven and a quarter inches, as based on the Les Blanches average (1894-1913) of 34·57 in. The year 1916 was therefore wet, if only moderately so; it was in addition the seventh successive wet year, a series immediately preceded by five successive dry years. Both Mr. Collenette's average figures of 74 years and mine of 20 years bear out the statement that we are, or have been (for it remains to be seen

what 1917 will produce in the matter of rainfall), running through a series of wet years. This, as argued out in my paper last year, does not necessarily point to a changing climate, but is more likely to be, as it seems to me, a balancing of nature in this element.

The year was cold as well as wet. Cold months predominated as had been the case in 1915, but on the whole the year was warmer, its mean temperature at Les Blanchés being, as shown above, 0·3 deg. higher than that of 1915. The months that departed most largely from the normal were January and June, but by a curious reversal of the usual order of things the winter month was extraordinarily mild, the summer month almost as extraordinarily cold. As a matter of fact, indeed, January was the warmest month of the name and June the coldest of the 23 years, 1894-1916. Normally June is 12·7 deg. warmer than January; this time the difference was only 5·3 deg. The figures are: January, 1916, 47·7 deg., normal 43·4 deg.; June, 1916, 53·0 deg., normal 56·1 deg. Each of the four seasons had one warm month, viz., Winter: January, + 4·3 deg.; Spring: May, + 1·5 deg.; Summer: August, + 1·4 deg.; Autumn: October, + 0·9 deg. All the other months had a mean temperature which worked out below the normal.

The year 1916 was very wet over the British Isles. Writing on the subject in *The Times* of January 25th, Dr. Mill, the Director of the British Rainfall Organization, said: "It is probable that in the last 50 years the British Isles as a whole have only been wetter than in 1916 four times, viz., 1903, 1882, 1877 and 1872. In the last seven years only one (1911) had appreciably less than the average; in the preceding seven years only one (1903) exceeded the average; so that the return of drier years seems about due."

GENERAL REMARKS.

The year 1916 began with a remarkably lengthy spell of excessively mild weather, which was also deficient in rainfall—a very unusual combination in the winter season. As however temperature, not rainfall, was the striking feature of these early weeks its record mainly will be dealt with here.

The mild weather really began on December 21st (1915), and ending on February 7th, was of exactly seven weeks' duration. During the whole of this interval the daily mean temperature at Les Blanchés was continuously above the normal—to what extent may be gathered from the table appended where the mean temperature of each of the seven

weeks is given and compared with the average of the 20 years 1894-1913. Rainfall varied a good bit during this period, some of the weeks being, as shown, wet, others very dry. Considered as a whole the interval was, as already stated, distinctly dry.

Date.	Temperature.			Rainfall.	
	Actual deg.	Average deg.	+ or - deg.	Actual in.	+ or - in.
Dec. 21-27	49·5	44·5	- 5·0	1·58	+ 0·60
Dec. 28 - Jan. 3	50·3	44·3	- 6·0	1·10	+ 0·12
Jan. 4-10	48·4	44·0	- 4·4	0·12	- 0·58
Jan. 11-17	46·9	43·6	- 3·3	0·49	- 0·21
Jan. 18-24	47·5	43·4	- 4·1	0·37	- 0·33
Jan. 25-31	46·2	42·3	- 3·9	0·07	- 0·63
Feb. 1-7	45·6	41·6	- 4·0	0·97	+ 0·41
The 7 weeks.....	47·8	43·4	- 4·4	4·70	- 0·62

The extremes of shade temperature during the seven weeks were 55·8 deg. on December 27th and 38·0 deg. on January 25th. On thirty out of the forty-nine days the max. touched or exceeded 50 deg., and fell to or dropped below 40 deg. on five days only. The warmest day, January 1st, had a mean temperature of 52·5 deg.; the coldest day, February 1st, a mean of 42·9 deg. Incidental reference has been made to the coldness of June, July was also very cold, and in this connection it may be mentioned here that January 1st and 2nd were actually warmer than July 3rd, which had a mean of 51·9 deg. only and was 5·8 deg. colder than the normal.

Let us now look at January's record by itself. The month's mean temperature (47·7 deg.) was 4·3 deg. above the average of the 20 years, 1894-1913, and it was by 1·3 deg. the warmest January of, at least, the last 23 years. Further back than 1894 this station's records do not extend. The month's absolute max. (55·4 deg., 1st) and the absolute min. (38·0 deg., 25th) are both records for heat, as are also the mean max. (50·2 deg., normal 46·3 deg.) and the mean min. (44·8 deg., normal 40·0 deg.). The coldest day of the month, too (31st, mean 43·0 deg.) is a well-marked record for warmth, and in fact no matter in what direction one looks the figures all point to January having been a period of most unusual mildness—a mildness which had a wonderful effect on plant and bird life on the island.

What a contrast to January, 1917, the coldest month at Guernsey since February, 1895. It is a really interesting instance of extremes meeting and a good illustration of the

saying that truth is stranger than fiction. For while January 1916 was very much the warmest month of the name of the last 24 years, January 1917, with a mean temperature of 38.3 deg. (5.1 deg. below the normal) is very much the coldest January of the same period. An account of the severe cold and frost of this month—the worst experienced here since that memorable February of 1895—is, however, a story for another occasion.

The winter of 1915-16 (Dec.-Feb.), exceptionally mild to past the middle of February, was not to end without giving us a taste of wintry weather, for a cold snap set in on February 21st and prevailed up to March 11th. This interval was remarkable, not so much for intensity of frost as for heavy snowfalls it gave from February 23rd to 27th and again from March 6th to 8th. Who can have forgotten the wintry aspect of the island on these days? Dr. Mill, from whom I have already quoted, speaking for England, said: "The severe snowstorms of February and March will long remain in memory." As collected in the gauge at Les Blanchés no less than 1.72 in. of water was measured from melted snow, viz., 1.12 in. as the product of the February storms and 0.60 in. of those of March. Together this represented a depth of at least 20 inches of snow! It is fairly safe to say that since the bitter winter of 1890-91, at any rate, no year had given so much snow here. Fortunately a rapid thaw followed immediately each of the several snowfalls, so that at no time was there any very great depth of snow lying on the ground.

Less snow fell both at Sark and Alderney than at Guernsey. A higher temperature apparently prevailed in the smaller islands on some of these cold days, for the Lighthouse Keepers at Sark and Mr. Picot at Alderney reported rain on February 25th and 26th, two days on which snow fell plentifully in this island. But both snow spells were experienced all over the Bailiwick, and of the March falls Mr. Picot wrote under date of the 7th: "Much snow during the night." The water collected from the melted snow (0.46 in.) pointed indeed to a depth of some six inches. The next morning Sark lay under a mantle two and a half inches deep, as reported by Mr. Kaye. A lot of snow fell at Guernsey on this day also, which was Ash Wednesday, but it was the last of the snow and the end almost of the long cold snap. This struggled on for three days more then ended suddenly on Sunday, the 12th, with the passage, in the evening, of two thunderstorms of moderate intensity and most distinctly of the summer type of disturbance—in mid-March!

The intensity of the cold spell may be gauged by the following figures which give the mean temperature of each of the three weeks included with the departure from the normal of 1894-1913 :—

Date.	Mean. deg.	Normal. deg.	Difference. deg.
Feb. 20-26	37·4	43·2	— 5·8
Feb. 27-Mar. 4	38·2	43·2	— 5·0
March. 5-11	37·5	44·2	— 6·7

February is not, normally, one of the wet months of the year, but it was so in 1916. At Guernsey (Les Blanchés) it was not only the wettest month of the twelve, it was the wettest February of the 23 years, 1894-1916. At Sark and Alderney also it was the rainiest month of the name for at least 11 years, that is since 1906, further back than which the records do not extend. The total deposit at the three stations is worthy of note.

	LES BLANCHÉS. in.	SARK. in.	ALDERNEY. in.
Feb., 1916.....	6·33 (normal 2·33)	4·53	5·80

Towards the end of March, during the evening and night of the 27th, a most violent storm of wind from S.W. at first, then from W., swept the island. Great damage was done to greenhouse and other property in all directions and many trees were uprooted. At St. Martin's, at Le Vallon alone, several fine trees succumbed to the terrific gale. The depression responsible for the storm sent our barometer down to 28·9 in. This is how an English newspaper wrote of one of the effects of the tornado in England :—

“The track of the recent storm has strewn the fields with firewood for the countryside that will last a couple of winters. Cottage backyards are choked with “kindling” and “chunks,” and what is to be done with the giants sprawling over every demesne and meadow, and lying like drunken ogres where they reeled in ditch and roadway, nobody seems quite to know. Two hundred on one estate, monsters all, a hundred on another, in eighties, sixties, forties, they lie as they were machine-gunned by the advancing blizzard. Hedgerows that had laboured for generations to bring up and support its row of planted elms now grin like tooth-ridden hags.”

By a very fortunate chance I had the good luck to see the formation of a fine lunar rainbow at 0·10 a.m. on April 20th. Lunar bows are of rare occurrence and those especially which show the prismatic colours. This one did so and made a charming picture. Owing to the low altitude of the moon in the S.E. sky (our satellite was two days past the full) the bow was of large size, and the cloud mass against which it was

projected in the N.W. sky loomed black and sombre in the moonlight.

I have spoken of the excessive mildness of New Year's Day, and in my Weather Diary, under the date of April 25th, occurs the following note: "To-day's mean temperature (52·6 deg.) is interesting. It makes this, to date, the warmest day of the year, an honour claimed, *up to yesterday*, by January 1st, which had a mean of 52·5 deg." As a matter of fact April had only four days warmer than New Year's Day, and notwithstanding that the month was normal as regards its mean temperature it was actually colder than January by 0·5 deg.

April was the driest month of the year in all the islands (at Sark only 0·36 in. of rain was measured) and it was the first of close on five successive months of very deficient rainfall, two of which, June and July, were also remarkably cold. In the 21 weeks included in this long dry interval a total of only 4·21 in. of rain was measured at Les Blanchés, against an average of 10·26 in. At Sark the total precipitation, 3·06 in., was considerably less, and at Alderney it was 4·35 in. The longest spell of weather without any rain at all began on July 17th in all the islands and was of 27 days' duration at Guernsey, and of 26 days at Sark and Alderney. At Guernsey (Les Blanchés) for 49 days (from July 7th to August 24th), at Sark for 52 days (from July 7th to August 27th), and at Alderney for 47 days (from July 7th to August 22nd), the total rainfall at each station did not average more than one hundredth of an inch per day. At Guernsey and Sark the average was actually below this figure.

Of the July-August droughts as experienced at Guernsey I should like to say a word. The "absolute" drought of 27 days was the longest rainless spell at Les Blanchés since 1908, in which year one of similar length occurred and at just the same time of the summer. The "partial" drought of 49 days is the longest of the kind registered at Les Blanchés in the 23 years 1894-1916.

A temporary but important break in the weather occurred at the end of August. In two days 2·19 in. of rain fell at Les Blanchés, 1·23 in. at Sark, and 1·59 in. at Alderney. Following upon all the previous weeks and months of great deficiency this rain was most welcome, the more especially as September proved dry until well into the fourth week, when a sharp thunderstorm passed over the Bailiwick and gave the heaviest rainfall of the year at the three stations. This was on the 26th, and the amounts collected by the gauges were: Guern-

sey 1·80 in., Sark 2·55 in., Alderney 1·47 in. The Sark downpour is notable. Not only is it the biggest rainfall by over half-an-inch registered at both Sark and Alderney in the last 11 years; it is also well in excess of anything measured at Les Blanchés (Guernsey) in the 23 years, 1894-1916, where the record fall is 2·42 in., October 2nd, 1904. Mr. Picot's record fall at Alderney is 2·00 in., September 17th, 1913.

Two days later, on September 28th (1916), another electrical disturbance occurred. At Sark, where damage by lightning was reported, the storm is said to have been severe, but rainfall everywhere was comparatively slight, the biggest return being 0·45 in. from Sark.

With the advent of October we expect an increasing rainfall, gales, and a general break-up of the weather, and it was so this year, for with the passage of the thunderstorms referred to above the dry weather came to an end and onwards to the end of the year the rain gauges were, with two or three short exceptions, kept busily employed.

The lengthy and exceptionally mild spell of weather experienced in the early weeks of the year had its counterpart in June and July in the shape of an even longer interval of pronounced unseasonable temperature—this time low. While, however, the New Year mildness lasted seven weeks and was really remarkable for the high temperatures recorded, this Midsummer coolness dragged itself out over nine consecutive weeks and was more remarkable for its length than for exceptionally low readings of the thermometers. That this was so is shown by the temperature registered, for whereas the Dec.-Feb. mild interval was, as a whole, 4·4 deg. warmer than the normal, the May-July cold interval was 2·6 deg., only colder. Some individual days, however, were sufficiently cool for the time of year to make them worthy of note. For instance, June 8th and July 3rd, with mean temperatures respectively of 47·9 and 51·9 degs., were the coldest June and July days at Guernsey (Les Blanchés) of the 23 years, 1894-1916. The normal for these days is 54·5 and 57·7 degs.

I am appending a Table of the cool interval complementary of the one already given of the mild interval and will just add that two days only of the 64 included (9 weeks and 1 day) were warmer than the average. These were May 30th and July 22nd. Every one of the 52 days between these dates were colder than the normal in varying degree. Rather curiously the only *bona fide* heat blaze of the summer occurred just before the commencement of the long cold spell. The heat was of short duration (four days only), but so intense for

May as to make the 20th of the month the second warmest May day in 23 years. That day's mean temperature (64·6 degs.) was no less than 13·4 degs. warmer than the normal. It would have been a hot day even in August.

Date.	Temperature.		+ or - deg.	Rainfall.	
	Actual. deg.	Average. deg.		Actual. in.	+ or - in.
May 25-31.....	53·1	54·2	-1·1	0·03	-0·39
June 1-7	51·6	55·1	-3·5	0·47	-0·02
June 8-14	51·1	54·8	-3·7	0·14	-0·35
June 15-21	52·8	55·9	-3·1	0·00	-0·49
June 22-28	55·9	57·9	-2·0	0·08	-0·41
June 29-July 5...	55·0	58·1	-3·1	0·37	-0·05
July 6-12	56·8	59·8	-3·0	0·72	+0·30
July 13-19	58·0	60·8	-2·8	0·07	-0·35
July 20-27	59·5	60·9	-1·4	0·00	-0·42
The 9 weeks	54·9	57·5	-2·6	1·88	-2·18

Following this prolonged cold interval August proved warm—it was the warmest month of the year—and the 3rd, with a mean temperature of 65·7 degs., the warmest day. It was altogether a delightful summer month with abundance of sunshine in the first half in addition to a pleasant seasonable temperature throughout. The harvest was reaped under perfect conditions of weather, and in every parish the fields of corn or other grain erect and waving in the breeze, were in striking contrast to the beaten down and “tangled skein” aspect not infrequently presented—the result of rain and wind.

Autumn, which in the seasonal division of the months begins with September, worked the inevitable change, slowly perhaps, but surely. October, very mild in the first half, was an unsettled period taken as a whole, but it gave no specially heavy rainfalls at Guernsey. Neither, with one exception, did November, another disturbed month with unusually big fluctuations in pressure. Twice in the first week the passage of deep depressions reduced the barometer to 29 in. and below; in the second week the mercury ranged much above 30 in.; in the third week (on the 18th) an extremely deep cyclonic swirl sent the barometer down to 28·6 in., and in the fourth week readings considerably above 30 in. were again being taken. The fiercest gale of the month (from south) raged throughout the night from the 4th to the 5th and was estimated to reach “whole gale” force.

The Sark lighthouse keepers reported an interesting occurrence on November 22nd. Just before midnight, the

atmosphere northwards being exceptionally clear, the reflection of St. Catherine's light in the Isle of Wight was visible on the sky.

At the end of November began a full three weeks' long cold snap. This wintry interval, which set in on the 26th and ended on December 20th, inaugurated what will be known as the severe winter of 1916-17—the first really hard winter since that of 1894-95. This early burst of cold, well marked as it proved to be (on four days the air temperature at Les Blanchés dropped to or below 32 deg., and the mean of the week ending December 16th was 6·4 deg. below the normal), was a very mild affair compared with the bitter conditions prevailing during part of the cold weather that set in on January 9th and prevailed until February 15th.

Each year provides peculiarities in the distribution of rainfall over the Bailiwick, and the most interesting instance in 1916 was probably that of December 17th. On that day, with the barometer at 29·7 in. and only a very light easterly wind stirring, just under three quarters of an inch of rain (0·73 in.) fell at Alderney as reported by Mr. Picot, while at Guernsey (Les Blanchés) and Sark the day was quite dry. The cause of these peculiarities is probably the existence of some slight local irregularity in pressure which brings about a fall of rain over the area affected.

A very fine fire ball, moving from south to north, flashed through the sky at 5.30 p.m. on December 19th, and emitted a brilliant blue light. I was not fortunate enough to see it, but it was reported to me by Mr. C. G. de la Mare and others, and some of the English scientific papers recorded its occurrence as observed in England.

The water in the well at Les Blanchés averaged (for the year) two inches higher than in 1915 and twenty inches above the normal of the 15 years 1902-1916. At the end of March, owing to heavy winter rains, the springs were literally overflowing their banks. Looking back upon the fact and upon the long summer drought that followed, this proved a blessing in disguise, for despite the steady seasonal drop in the water level from April onwards, there was sufficient in store to prevent a real shortage when the springs approached their lowest. At Les Blanchés the flow set in about December 17th—a later date than usual by several weeks. Owing too to deficient winter rainfall the rise is so far (February) progressing only slowly. Actually the spring is five feet below the level of a twelvemonth ago, and has not been so low in February since 1909—a year of very low springs.

In conclusion I have once more to tender thanks to Mr. W. J. Picot, of Alderney, as also to the lighthouse guardians at Sark, Messrs. Warder, Kaye and McCarthy, for their valued services in measuring the rainfall in their respective islands for me and in supplying me with the particulars week by week.

ABSOLUTE DROUGHTS IN 1916.

An Absolute Drought, as defined in *British Rainfall*, is "a period of *more than* 14 consecutive days, no one of which is a rain day."

SARK.

May 17 to June 2 17 days.
 July 17 to August 11 26 days.

ALDERNEY.

July 17 to August 11 26 days.

GUERNSEY (LES BLANCHES).

July 17 to August 12 27 days.

PARTIAL DROUGHTS IN 1916.

A Partial Drought, as defined in *British Rainfall*, is "a period of *more than* 28 consecutive days, the mean rainfall of which does not exceed .01 in. per day."

SARK.

July 7 to Aug. 27 = 52 days. Rainfall, 0.48 in. on 11 days.

ALDERNEY.

July 7 to Aug. 22 = 47 days. Rainfall, 0.47 in. on 11 days.

GUERNSEY (LES BLANCHES).

July 7 to Aug. 24 = 49 days. Rainfall, 0.40 in. on 8 days.

RAIN SPELLS IN 1916.

A Rain Spell, as defined in *British Rainfall*, is "a period of *more than* 14 consecutive days, every one of which is a rain day."

SARK.

October 22 to November 10 = 20 days. Rainfall, 5.47 in.

ALDERNEY.

January 14 to February 10 = 28 days. Rainfall, 2.69 in.
 February 23 to March 15 = 22 " " 3.59 in.
 March 17 to 31 = 15 " " 1.88 in.
 October 22 to November 11 = 21 " " 5.99 in.

GUERNSEY (LES BLANCHES).

October 22 to November 11 = 21 days. Rainfall, 4·51 in.

ONE-INCH RAINFALLS IN 1916.

Sark.	Alderney.	Guernsey (Les B.)
Aug. 28 ... 1·00 in.	Aug. 29 ... 1·01 in.	Aug. 28 ... 1·08 in.
Sept. 26 ... 2·55 „	Sept. 26 ... 1·47 „	Aug. 29 ... 1·11 in.
		Sept. 26 ... 1·80 in.

SARK AND ALDERNEY RAINFALL, 1916.

Months.	Monthly Totals.		Rain Days.		Greatest Rainfall in 24 hours.				Falls of 0·50 in. and above.	
	Sark.	Alderney.	Sark.	Alderney.	Sark.		Alderney.		Sark.	Alderney.
					in.	day.	in.	day.		
January	1·70	1·00	19	27	0·39	3	0·15	19	—	—
February ...	4·53	5·80	25	27	0·88	20	0·78	20	3	3
March	2·70	3·88	24	30	0·41	14	0·46	7	—	—
April	0·36	0·81	8	20	0·13	16	0·14	6	—	—
May	0·72	0·87	12	16	0·35	8	0·24	8	—	—
June	0·94	1·15	10	14	0·30	29	0·39	29	—	—
July	0·73	0·86	8	9	0·41	6	0·59	6	—	1
August	1·56	2·28	10	13	1·00	28	1·01	29	1	2
September ..	3·77	2·44	10	9	2·55	26	1·47	26	1	1
October	4·35	4·72	22	23	0·52	27	0·73	25	2	3
November ..	4·96	5·07	22	23	0·71	5	0·89	17	4	2
December ..	4·85	5·82	23	22	0·70	20	0·78	20	4	5
The Year ..	31·17	34·70	193	233					15	17

Totals and Heaviest Rainfall for the Eleven Years, 1906-1916.

1906.....	26·07	28·63	161	168	1·16 June 28th	0·85 Nov. 8th	10	15
1907.....	26·15	28·84	178	188	1·11 Nov. 25th	1·15 Oct. 1st	6	7
1908.....	18·51	24·02	155	150	0·62 Feb. 16th	1·04 Apl. 24th	1	6
1909.....	26·13	32·99	146	157	1·38 June 3rd	1·55 Nov. 15th	14	15
1910.....	39·04	?	203	?	1·84 Oct. 13th	?	14	?
1911.....	26·71	29·12	152	158	1·40 Oct. 27th	1·21 Nov. 11th	10	14
1912.....	37·87	39·04	197	197	1·35 Aug. 12th	1·30 Aug. 12th	22	22
1913.....	27·09	31·66	173	172	0·95 Dec. 5th	2·00 Sept. 17th	10	11
1914.....	35·61	37·11	187	172	1·18 Dec. 9th	1·36 Dec. 9th	15	18
1915.....	36·66	41·94	170	160	1·23 July 16th & Oct. 23rd	1·32 Oct. 31st	20	27
1916.....	31·17	34·70	193	233	2·55 Sept. 26th	1·47 Sept. 26th	15	17
Averages ..	30·09	32·80	174·1	175·5			12·5	15·2

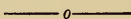
NOTE.—The Sark averages are based on eleven, and the Alderney on ten years' observations.

Summer Time—the Daylight Saving Act—was ignored at the three Stations dealt with in this paper. All observations were taken by true time and all weather phenomena so recorded.

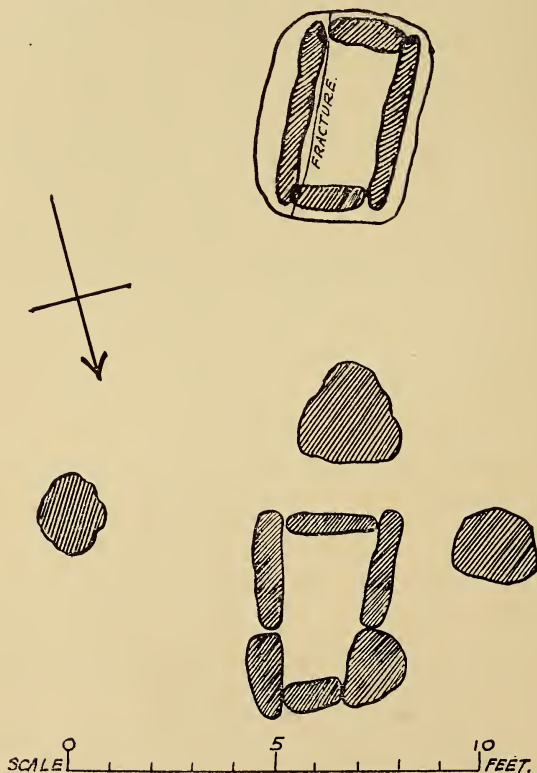
Where not otherwise definitely named, the Station implied in the references to Guernsey in this paper is that at Les Blanchés, St. Martin's, which was established in January, 1894.—B. T. R.

REPORT ON THE DISCOVERY OF TWO CISTS ON THE BEACH NEAR ROUSSE TOWER.

BY COL. T. W. M. DE GUÉRIN.



ON Monday, 10th April, 1916, Mr. Le Tissier of St. Magloire telephoned that he had discovered a cist on the beach to the N.W. of Rousse Tower. I went down on Thursday afternoon following and met him there. His workmen removed about six inches of sand and pebbles and



Plan of Cists discovered in the Beach near Rousse Tower.

disclosed a small cist about 4 feet 6 inches in length, by 2 feet 4 inches at the South and 2 feet at the North end, lying North and South at its longest axis. Its covering stone

had disappeared, having probably been carried away by the sea. The cist was formed of six upright stones, two at each side and one at each end. Four fair sized upright stones formed a semi-circle round it on the South side. The interior was filled with earth to within three to four inches of the top of the side stones beneath the sand and pebbles, and it was washed by the sea at high tides.

On Tuesday, 18th April, Major Carey Curtis, Mr. Collenette and I went down with Mr. Le Tissier and excavated the interior of the cist, but nothing of interest was discovered in it. We noticed the heads of several stones lying to the South of the cist which seemed to form part of another circle. A few minutes digging in the centre of the circle revealed a large flat stone about 4 feet 6 inches square, split in two, adjoining another stone. On removing the smaller portion of the flat stone, the side and end of another cist was disclosed. The larger portion of the covering stone was then removed and the whole cist was exposed to view. The interior was filled with earth to within 3 inches of the top of the side stones, on which lay a layer of 3 inches of sand. Part of the earth at the North end of the interior was removed to a depth of 2 feet, but only a few small flint flakes and minute fragments of pottery were found. The cist was formed of four flat stones set on edge, two about 3 feet long forming the sides, and two from 20 inches to 2 feet in length forming the ends. It also lay North and South at its longest axis, almost in a line with the first discovered cist. The northern half of its surrounding circle touched that of the other cist.

Wednesday, 26th April, I went down again to Rouse with Mr. Collenette and Dr. Brownlee to continue the excavation of the cists. The remainder of the soil in the southern cist was removed and carefully sifted, but only two or three small fragments of very rotten pottery, of no great thickness, were discovered and a few more flint flakes. The sand and pebbles to the South of the cist were removed and exposed four small stones of the circle on this side, and midway between the two cists another small circle of stones was discovered. The interior of the latter was covered with a large flat stone and a few smaller ones forming a sort of pavement. The East and West sides of the enclosure were formed of two projecting stones of larger size than the remainder. The circle was not more than about 2 feet in diameter. The flat stones were raised and the soil beneath removed to a depth of about 20 inches and carefully sifted. In it were found a few

flint implements of small size, fragments of charcoal, and in the South-East corner a fragment of the base of a vase of thick coarse pottery and a small quantity of very decayed bone. Evidently an interment had been made within the enclosure. The stones forming the enclosure seem to have been placed on the surface of the soil or very little beneath it, except on the South side which was built up with two rows of dry stone walling. One stone at the North-West corner was buried about 2 feet in the soil.

It is very probable that other similar graves may be discovered in the vicinity.

GEOLOGICAL NOTE

ON THE POSITION OF THE CISTS AT ROUSSE.

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THE cists are placed on the same deposits as at L'Islet. The raised beach here is a sloping one as is the L'Islet beach. The Dolmen at the latter place is on the top of the beach and is on a flat surface. At Rousse the beach is also a sloping one, but the top has not been chosen, hence the cists are not on level ground but follow each other on the slope, the lower one being inclined downward. Here also the cists rest on the black sand which overlies the beach deposits in both cases.

The contents of the cists, which appear to be the original filling, is a loam, and seems to me have been derived from a forest surface. If that is so, we must believe that the land surface between Rousse Tower and the nearest higher land was much higher than at present, and that it was covered by forest growth. The Neolithic men would have chosen a gentle slope on what appeared to them a gentle hill and have dug down to a solid surface, placing their graves conforming to the surface of the hill and filling in with the loam which was near to hand.

We know that the sea was at that time far away and the changes of sea level would not be evident to them.

THE GEOLOGICAL PUZZLE PRESENTED BY THE MOULIN HUET AND ICART CAVES.

BY MR. A. COLLENETTE, F.C.S.

READ APRIL 26th, 1916.

THE caves at Icart and Moulin Huet have, ever since the first visit of the Society in 1883, offered a puzzle which up to now no one has attempted to unravel, but the work of the Geological Section in the recording of the deposits of the island has made it possible to give an explanation, for light has been thrown on the succession of the deposits found in the caves. (See "Pleistocene Period in Guernsey" in this year's *Transactions*.)

The late Mr. G. T. Derrick, then the leader of our geological section, thus describes the Icart caves. "There is no doubt that the whole cave was filled with pebbles (apparently from the beach below) for they are found adhering to the walls and roof, cemented to them by secretions of carbonate of lime."

To account for pebbles having filled a cave some 30 to 40 feet as regards its roof, above the mean sea level, and yet have come from the present beach, Mr. Derrick offered the following explanation:—

"My idea is that, ages ago, the cave opened out to the beach" (the opening had been described as having been closed with a concrete of pebbles) "which may have been from 10 to 20 feet higher than at present; at this point the cave was filled with sand and pebbles."

A study of the levels has proved that such an explanation is impossible, for the conglomerate as regards the lower ledge is now identified as being the top of the 25' beach. This identification might seem to make the question more obscure, but it will presently be seen that there really is no puzzle at all when all the facts are known.

By a detailed description of the cave at Moulin Huet I shall be able to bring all the facts clearly before you.

The cave is not a cave in the same sense as many of the others on our south coast. At one time it was a mere cleft and quite open above and below. Now it is open below but closed above. The cave is entered from the present beach

through a passage 4 feet wide and formed of the two sides of the gully. Immediately after entering, the eye is struck by the presence of a ledge of rock forming a raised platform, on the top of which is a mass of conglomerate which seems to be continued up the back of the cave and is spread over the roof, being suspended by its cemented condition. The top of the roof is some 40 feet above the mean sea level, and this great height made it difficult for the members of the Society present at the excursion when the Icart cave was examined to believe that these caves could have been filled from the present beach, and yet that was the only explanation then possible.

The facts ascertained which have led to a better theory are as follows: First—Mr. J. J. Carey and I made careful measurements of the various deposits and found that the conglomerate was at a mean height of 25 feet above mean sea level. This conglomerate formed a flat bed quite distinct from the pebbles which rested upon it and filled up the cave, but at that time we did not find the explanation. I gave a full account of the results of our examination in my presidential address in the year 1892. The matter was left undetermined and the puzzle of how the pebbles got in the caves and filled them up to the very top remained unsolved.

The history of the caves has now been worked out and is as follows. We must divide the process into three stages:

1.—Quite a long time ago, long before the glacial epoch, the shape of the island was cut out by an eroding sea. It may have been during Eocene times or more probably during late Pliocene times, for the Bournemouth Beds show that then the sea level was much the same as now. Indeed, the carving out of our coasts may have been the result of several returns to the same levels. One thing is certain, namely, that the depression of the island which existed when the sea laid down the 25' beach and cut the rock platforms associated with that level found the island of the same shape as at present, if we allow for the separation of the outlying rocks and terminal promontories, otherwise the 25' beach would not have followed the coast line as it does.

That being the case we must believe that the rocks, which by their decomposition gave rise to the caves, were already brought under the influence of the sea. The sides of the caves, being hard rock, resisted erosion, but the then existing cliff was washed from the base and an opening was made at the level of the time into the softer rock between the two hard sides. This opening was of small size, a mere beginning in fact.

That opening gave an outlet to the water which drained through the soft rock, and as the pieces of rock fell into the cavity from the roof and sides the cave became larger and larger. This process was intermittent, but at the time of the 25' beach the cave had become large enough for the sea to wash along the whole length, but the cave was still a low one, being then about 10 feet high inside. The floor was six feet higher than at present.

2.—The second stage sets in with the sea at the 25' level. The wash of the sea now removes all the fallen rock, but a period sets in during which there is a greater rainfall and the soft rock decomposes more rapidly, and the rock-falls become greater and the cave larger.

The cliff is all washed away by being undercut and the cave becomes an open gully into which the sea makes a clean breach, taking into the gully and as often removing again a vast mass of pebbles, which in passing in and out scored the sides as now seen, in the end it had worked out a platform which was the equivalent of the Divette one and on the platform it left a mass of pebbles. The sea level was a falling one, and as soon as it fell below the level of the then small opening all changes ceased.

The decay however continued inside, and thus we find fallen rock on the top of the layer of the 25' beach.

3.—The fall of the sea level ceased and a rise succeeded which continued until a new level of 52' was reached. During the rise which represents a fall of the land, a new cliff was forming and probably the whole of the caves was covered over.

The arrest of the fall of the land gave time for the sea to work out the third stage. It washed away the cliff rubble from the top of the old gully, and then found a way into the cave from above, displacing the rubble to a distance down and ultimately filling the top with beach stones.

On the rise of the land until the present level was reached the cave found itself again covered with a new "Head."

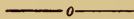
Now begins the work of opening the cave once more, but this time from a lower level, and the soft rock floor is removed and all the fallen débris washed out as far as the sea could reach, leaving the cemented pebbles on the roof and sides. But the land is still sinking and the excavation of the cave is still in progress, and the whole of the pebbles will ultimately be removed.

In short, the caves have been filled at two separate levels.

NOTE
ON THE OCCURRENCE OF "ROSTROCARINATE"
IMPLEMENTS IN GUERNSEY.

BY MR. A. COLLENETTE.

READ ON 18th OCTOBER, 1916.



THE members of the Society will remember the fact that Mr. J. Reid Moir, described flint implements possessing a curved base to which he gave the name "rostrocarinate," in the crags beneath the Norwich glacial drift.

Dr. Marett, of Jersey, reports one of the same shape as occurring in the Mousterian Cave (Cotte de St. Brelade). He says a specimen of "rostrocarinate" form possibly a mere "outil de fortune."

Having in the museum two such shapes, and having received two more recently from Mr. Morgan, I think it is of interest to make a record of the fact. I show the four museum specimens. Nos. 1 and 4 are from Mr. Morgan, No. 2 is from L'Islet and No. 3 from L'Ancrese.

As the two last named places have had a deposit of glacial clay over them and Mr. Morgan's ground is entirely derived from such clay, it is reasonable to suppose that they are the work of the same period.

The form must, if we give full weight to Mr. Moir's implement, be a very old form, but the find in the Jersey cave points to its use by Mousterian Man and we are finding ours in the same horizon.

It is difficult to imagine that the art of striking such flint from cores derived from conchoidal flints may have been easily acquired even at the earliest flint age, and we know that flat bases could be struck at will from suitable cores.

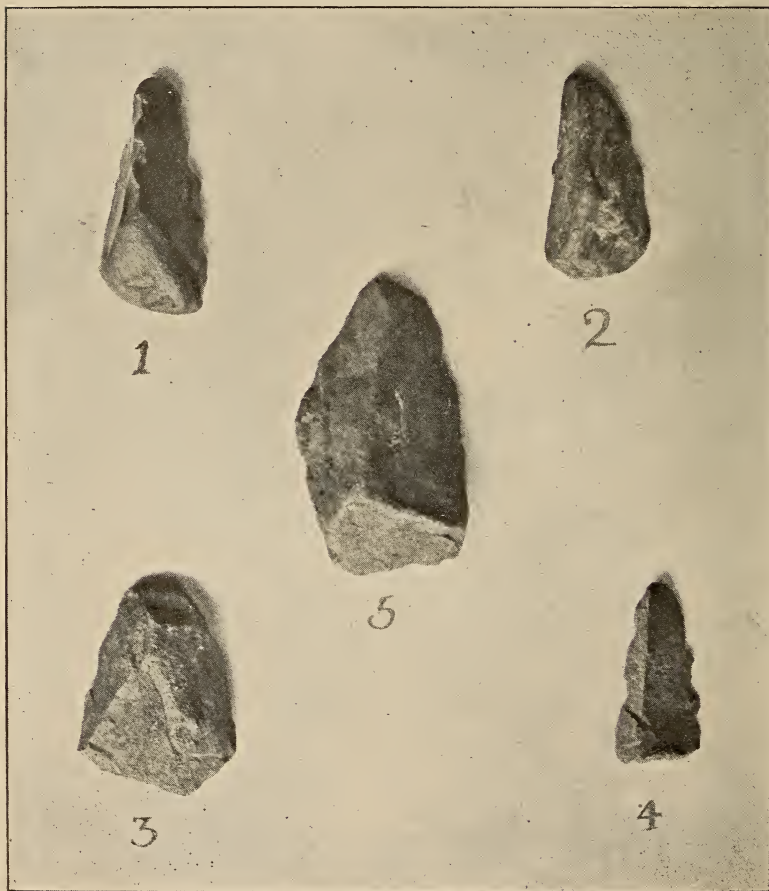
(See Photograph No. 19).

Specimens of Mousterian implements obtained from the upper clay at St. Martin's.
To be seen in the Museum.



Type—Ridged and Curved (Rostro-Carinate).

Implements from the clays made of felsitic trap, not flint, originally rough points with ridge, of triangular section. Much worn and broken.



12 such are in the Museum.

NOTE
ON CERTAIN IMPLEMENTS OF STONE AND FLINT
FOUND IN THE UPPER CLAY.

BY MR. A. COLLENETTE, F.C.S.

(Curator of the Guille-Allès Museum.)

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FLINTS recognised as artifacts, possessing a triangular section and a ridge along the top, have long been known and admitted as a form common to all cultures of Paeolithic times.

Guernsey and Jersey have yielded many examples, as for instance, one of pre-Chelluan age, found by me in the Herm raised beach ; one found in the Mousterian Cave in Jersey ; several found in the upper clay in various parts of the island, and many figured in the various papers and monographs published in England.

Some of the same type worked out in hard stone have, however, been refused by many as being the result of accident.

I now desire to show that some of the stone implements recently found by Mr. Morgan in the clay, along with many undoubted artifacts of Mousterian age, show signs of having been made by shaping and adapting.

No. 1 (left hand upper row) is an example of the flint accepted implements illustrated for comparison.

No. 2 (right hand upper row) is an implement of red granite, it possesses the same shape and the same angles, and in this case the angles are not those which occur in the rock naturally.

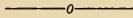
No. 3 (centre) is a worked stone in which the angles natural to the rock have been used and adapted to form an implement. The stone is a vein felsite.

No. 4 (left hand lower row) is a more unfinished but undoubtedly worked stone of the same rock, with the flat underside only partly flattened, a most useful specimen in showing the method of production.

No. 5 (right hand lower row) is a nearly finished specimen of the same stone in which the natural angles are made use of.

No one, I think, can study these without coming to the conclusion that these are artifacts.

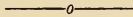
THE PLEISTOCENE PERIOD IN GUERNSEY.



READ AT THE NOVEMBER MEETING OF THE GUERNSEY SOCIETY
OF NATURAL SCIENCE AND LOCAL RESEARCH.

BY MR. A. COLLENETTE, F.C.S., VICE-PRESIDENT.

(Curator of the Guille-Allès Museum.)



INTRODUCTION.

THIS paper is an attempt to place the superficial deposits of the island in orderly sequence, and to correlate them with their equivalents in the other islands and on the coasts of the English Channel.

As far as Guernsey is concerned, I am convinced that these deposits all belong to the period under review, for only in the case of flints (which denote previous deposits of chalk with flints) have I detected any earlier.

An advance copy of this paper has been read by several members of the Jersey Society, and I have been favoured with evidences of agreements and differences which I shall introduce in their order, and thus show the weight to be attached to my own conclusions.

As the chalk deposits are of no use to my argument except in so far as they are a source of flints which were utilised by early Paleolithic men who inhabited these islands, I shall treat of them in this introduction only.

I have found flints as pebbles, as flat slabs and as nodules practically all over the island, but especially in the old beaches. They are also met with in the clay deposits at all elevations, and I look upon these as having been left on our areas after the chalk had been eroded away.

The presence of slabs and nodules, which evidently have been formed by the deposit of gelatinous silica penetrating into chalk cracks and spaces in chalk above the elevation of the sea.

Our Jersey fellow-workers, however, are not of this opinion, believing that in Jersey the flints are only found on the lower beaches and that they are sporadic in origin. While in Jersey, during the recent visit of our Society, I paid attention to the question of the occurrence of flints at high

levels, and I am convinced that the evidence of the occurrence of chalk is strong, and confirms me in my deduction.

The flints occur in diminishing numbers as the higher elevations are reached, but this is the natural result of gravitation over a long period of time.

Our Jersey fellow-workers also differ from me in the relative ages and sequence of the raised beaches. These differences of opinion I shall refer to in the proper places.

I think most of our differences are capable of adjustment could we work together more and discuss the variations introduced by the local influence of rocks and their relative rates of erosion, etc.

I do not consider that my conclusions are necessarily the last word; on the contrary, I offer them more as a starting point for the work of the future members of the Society, and as embodying the observations I have carried on for so many years.

Stage 1.—Part 1.

THE CAVES, RAISED BEACHES AND THEIR PLATFORMS.

The first point to which I have to devote space is a consideration of the condition of the island when the beaches in question were formed.

The Channel must have been low ground from very early times, and the south of England outlined in much its present form. This part of the Channel also had its low ground between the islands, all forming a low-lying plain with hills surrounding it. Thus, the low portions between Jersey and Guernsey are now under the sea, not because the sea has eaten away all the land between these islands, but because the land being low the sea has been able to cover it. The same rule applies to the Channel which was fringed with high land. The islands were, however, joined to France much later, and their connecting valleys have been eroded comparatively recently, so that the sea margin was at one time kept outside the Casquets on the north and the Minquiers on the south; but even at that stage the sea penetrated far up the valleys towards the present coasts of France. Such portions of the lowlands as the Russels, the Race, the Swinge and the Deroute have been eaten into and their bottoms lowered. Thus, Jersey was admittedly joined to France, and with the Minquiers formed a promontory of France up to post glacial times. Sark was a separate island for a geological age before Jersey separated itself from the mainland. Guernsey formed

an island of large size, being united to Herm. Alderney with the reefs of the Casquets was another promontory of France. The Schole Bank was an island.

Although all this is quite certain, yet it is also true that the sea found its way to all the low lands of these groupings and constantly ate into their margins whenever its level rose. When the level rose enough the sea washed the present margins and covered large areas of these islands without disconnecting them permanently. It was such rises of the sea which cut our present coast-lines, in time retiring and leaving the larger tracks of low land again connected up.

Thus the islands were shaped long before they were finally separated and, indeed, would be very much larger even now if the sea retired a very little. This I have dealt with in former lectures so need not be elaborated further now. (Mr. J. Sinel has shown this by maps as far as Jersey is concerned in his recently published "Prehistoric Times and Men of the Channel Islands.")

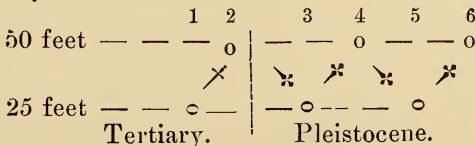
My object in introducing this here is to show that there is no need to put down the whole of the lost land to erosion, for change of sea-level is the chief cause of the encroachment. That being understood, we can see that a sea-level high enough to reach the present coasts would easily have shaped them.

CAVES.

I am not prepared to discuss the correctness of Dr. Holst's theory* of the oscillations of land, but it seems to me that there is a tendency towards fixed points of arrest in the processes of rise and fall of sea-level which, if admitted, will go far in justifying the assumption that the islands were carved to their present shape (less a margin of more recent erosion) during late Pliocene times. In this part of my argument I speak of two levels only, but these did not follow each other as here shown, for other levels have to be placed in order between them as will be treated of later on. These points I term

POINTS OF STABILITY.

They may be shown as follows :—



Nos. 1 and 2 are represented in the Bournemouth Beds.

* "The Ice Age in England," Dr. Nils Olaf Holst. *Geo. Mag.*, Sept., 1915.

No. 3, the Channel and Islands low level beach.

No. 4, the 50 feet Beaches in Jersey and Guernsey, including the Gower Caves and the Jersey Caves.

No. 6, Period of occupation of Caves.

At various elevations, in all the islands, are to be found caves, rock-fissures and sea-eroded rocks.

These begin with the sunken and submerged caves of Sark and end with the sea eroded rocks and fissures of our south coast where they exist at an elevation of 270 feet. (Corbière caves.)

These alone point to recent changes of level, but such changes are also indicated by extensive rock-platforms and raised beaches, the difficulty being to assign correct relative periods and sequences to all these geological data.

The caves which exist here have their counterparts on the coasts of the English Channel and in the other islands of our group.

These caves are usually associated with definite levels of the sea as indicated by former beach deposits or sea eroded margins.

Thus we have caves in Sark with their bottoms below sea-level and beach deposits on our west coast 12 feet below O.D.

We also have caves with their bottoms at the same height above the present sea-level as the 25 ft. beach. (Dog's cave at Icart Point and Moulin Huet cave.)

In the caves we have but little to guide us as to sequence, but I think the evidence of Moulin Huet cave does offer strong evidence that the 50 ft. to 60 ft. beach followed and was in that cave laid on the 25 ft. beach. (See separate paper in this volume at page 331.)

This association is not admitted for like caves in Jersey. The evidence here is as follows:—

1st.—A rock crevice was formed and existed as a cave with a low and constricted entrance.

2nd.—Through the entrance the 25-foot sea, assisted by the pebbles of its beach, worked a flat platform and deposited thereon a 4-foot layer of pebbles. These are now a conglomerate.

3rd.—An interval of time followed during which the cave was not under the action of the sea and rubble fell from the decaying roof and partly filled the cave, resting upon the conglomerate.

4th.—The conglomerate was in its turn covered by a new deposit of beach, apparently through an opening in the roof, and this became, in its turn, cemented into a conglomerate.

5th.—The present sea deepened the bottom of the cave three or four feet and left the ledge of 25-foot beach with its rubble standing on a portion of the old platform with its head of rubble still in position and the pebbles of a different beach cemented into its roof. The beach of which the roof shingle is composed must have had an elevation of about 50 feet.

The caves in Jersey seem also to have deposits of two levels, not in the same caves, but at elevations agreeing with the raised beaches of 25 feet and 60 feet.

The caves which contain deposits must have been formed before the time of the formation of the deposits.

Although this fact is self-evident, all the writers call attention to it, for fear, probably, that it may be overlooked. Dr. R. R. Marett (*Pleistocene Man in Jersey, Archæologia*, vol. lxii, p. 476) calls attention to it in the following words: "The one absolute fact on which it is possible to build is that the two Cottés must have been hollowed out before they were inhabited. It is hardly less certain that they were sea caves, a raised beach forming the bottom layer of the two Cottés."

Thus the caves are shown to have been formed before the various beaches with which they are associated. It is also evident that the lower caves have been under the action of the sea four times, viz., 1st, the one which opened them; 2nd, the one which deposited the beach stones within them; 3rd, the level which filled them from above (this did not occur in all), and 4th, the present sea-level as far as the lowest caves are concerned.

The upper caves at levels of 70 feet, and above, can only be said to represent one sea level each.

These recurring elevations of the changing sea-levels are most interesting and "give one to think." As I see that there may be some help to be gained from the idea I shall call attention to the fact that geologists have found reason for believing that the Channel area has been several times dry land.

Jukes-Browne in his "Building of the British Isles" and Geikie in his "Great Ice Age" both give instances—but of later periods than the one we are now discussing—of a dry channel.

In Tertiary times a sinking must have happened, as shown by the Isle of Wight and Bournemouth Beds. Strange to say the latter, between Bournemouth and Christchurch, have well marked deposits of rolled stones, just at the two levels now under discussion.

The Scotch raised beaches are also at the two levels ; but there is reason to think that they alternate in time with the English beaches of the same level.

Dr. Nils Olof Holst, already referred to, of the Swedish Geological Survey, has discussed these levels (*Geological Magazine*, Nov. 1915, p. 512). Speaking of glacial time, he says "Scotland rose, and England sunk, when the one went up the other went down, probably both the up and down movements increased with the distance from the fulcrum" which he places on the border. The land thus behaved like a see-saw. In this way he accounts for an alteration of sea-level between the south of England and the 25 and 50-foot beaches of Scotland.

Sir J. Prestwich includes under the term Raised Beach Period all elevations, and they are many, but does not, in his paper, clearly indicate their order of deposition or their correctly ascertained elevations. The truth is that owing to the depths of the original deposits and the unknown portion of each deposit, which has left, but a small remnant, there must always be a difficulty in knowing these elevations ; but I may say, that having tabulated a number I think it will be sufficiently correct and convenient to use the round figures of 25, 50, 70, 125, 175 and 300 ft. to cover the various elevations discussed by the writers who describe them.

The want of clearness on Prestwich's part will be evident. He recognises on the South coast a level of 25 feet ; this he continues all around the coasts of Cornwall and on both sides of the Severn. He describes an elevation at Newhaven of 50 feet. At Portsdown one of under 100 feet. At Hopes Nest he describes an overhanging mass of conglomerate at an elevation of 50 feet.

THE RAISED BEACHES.

I have, so far, treated of sea-levels as fixed by caves and their associated beaches. I now treat of the beaches themselves which I shall divide into two series : 1st, the lower and well marked beaches, and 2nd, the higher and less well defined.

THE LOWER RAISED BEACHES.

Before entering on any argument founded on the beaches I shall describe them in sufficient detail.

Above the present beach, now in course of formation, is an old deposit which, owing to its extreme age is consolidated into a firm conglomerate. The base of this formation is just above high water mark. The mean height of all the deposits is 25 feet above mean sea-level (O.D.).

The extremes of elevation of the different deposits are 23 feet and 30 feet, measured at the centre of the separate deposits. The thickness averages 4 feet with extremes of 6 feet and 8 feet.

An example of one of the deepest deposits is to be found at Jethou, on the part of the island which faces Herm.

I show a photograph, taken by Mr. Leale, expressly for this paper. (It is marked No. 1 in the illustrations.)

The deposits of this beach in Guernsey are very numerous and situated as follows:—

East Coast.—At St. Martin's Point and along the cliff to Divette, the beach deposit is found, with but slight breaks, underlying the cliff head. (See photographs 2 and 3.) Here the beach is only a thin line of pebbles and constitute the last remaining remnant of former extensive beaches. At Fernain Bay, North point, the deposit is thicker, but from there to the Vallette only small and easily missed patches are met with. Under High Street, at the end of the Arcade, there is an extensive deposit which was exposed to view when the Arcade was repaved. From the Town to the Longstore excavations have proved that the beach, at one time, covered a large area. This is not now visible. The old sea line, hence washed the land below the Côtils. A remnant, protected so far from sea erosion by an out-crop of rock is visible a short distance north of the Longstore, and by further deposits we trace the old beach line inland along the Bouët Road, losing it not far from the mill at the lower level. We find it again at Barker's quarry and again at Spur Point. I have not met with any deposit on the East margins of the Braye-du-Valle, but around the coast of Bordeaux harbour and the adjoining hommets the beach is strongly in evidence. The beach continues around the Fort Doyle promontory, and on reaching the North of l'Anresse it brings us to its largest remaining deposit at Fort Le Marchant. This beach demands a description of its own.

Although there is but a small portion of the beach originally deposited here, it nevertheless is a most extensive example of the beach of this elevation. It is now about 1,000 yards in area and occupies the whole of the low ground between the Catellaine hill and the Fort. It is fast being eaten away by the sea which, as soon as its work is ended, will separate the Fort from the land. The erosion is so rapid here that the sea is mixing the old beach material with the new so as to be distinguishable with difficulty. The section exposed is about four feet in thickness as an average, reaching eight feet on its landward limit. (See photograph No. 4.)

The beach is found as a marginal remnant along the edge of L'Ancrese Bay, and for a short distance under the sand deposits and around the Fort Pembroke promontory.

West Coast.—We now come to the West Coast, where we have some most interesting deposits. The Mont Cuet end of Grand Havre must have been an island, for the beach is found not only on the sea margin but in the quarry cuttings on the Common side. I think much of the area of Grand Havre has been eroded away since this beach time, for it is only traceable on portions of the rock out-crops until we reach the Vale Church hill. Across the Braye a large deposit of importance in the coming discussion exists on L'Islet which, as its name implies, has been an island during recent times. Here a large area is covered by the beach which extended from the Sandy Hook quarry across the dolmen-mound until it terminates on the Braye side below the Chapel. On the way from L'Islet all the way to Rousse, some near to, some distant from the sea-margin, there are patches. Rousse presents a good exposure which will be spoken of in another connection, later.

The whole West Coast is fairly lined with deposits (see photographs Nos. 5 and 6). There are breaks, however, for at both Mare de Carteret and Grand Mare the deposits are inland and not easily found by those who have not traced them. The beach at the Mare de Carteret is very extensive. It begins near the shore end of the Carteret Road and stretches away to and beyond the Hougue du Pommier Road, and is still to be picked up along the margins of the Grandes Mielles to the Hougues Maingy encircling the smaller hougues between this outline and the coast. The deposits then take to the sea-coast and skirts the high land around Cobo and Hommet, but is lost to view at the Grand Mare.

Although the deposits are to be found off and on around Perelle and Rocquaine they are of lesser importance, and may be passed with this mention.

South Coast.—On the South side of the Island there are no deposits so far reported to the Society until we get to the East of Bon Repos. The best known examples are those found in the caves and cliffs. Those in the caves have been treated of in a separate paper.

This level has been found to be lined around the coast in Jersey also by deposits, "so numerous as, to quote a local geologist, to render it more difficult to say where they do not exist."

The whole coasts of the English Channel are also lined with this beach level (with breaks due to erosion, etc.).

Alderney, Brechou, Herm and Jethou (see Photograph No. 1, etc.) also have this beach well represented, and these deposits may be passed by with the remark that the South of Alderney is almost bare, that the West of Jethou is without exposed beaches, these, if deposited, being hidden by enormous blocks of stone.

THE 50ft. DEPOSITS.

Well inland are beach deposits of a different elevation. These are fairly numerous, but not all the deposits can be called beaches, some being but small remnants. Taking the beaches first and in order of importance, I chose the beach at the Capelles as the largest for description. This deposit extended at the time of its deposition from the Capelles to Les Maingy resting on the Anneville hill. The whole beach was thus the margin of a bay as large as Grand Havre, facing north. The sands of that bay still exist *in situ*. This deposit has a mean depth of 5 feet, and is very flat at the Capelles as though all irregularities had been eroded away.

The next in importance is at Hougue Noirmont south of Miellette Bay. Here we have a very extensive beach extending to Rue des Chapelles and Hougue de Paradis. This deposit is important because it demonstrates the order in time of other deposits to be discussed later. The smaller deposits are to be found on the tops of isolated hougues. Of these, I shall name Noirmont Lane (probably a connecting link between Roque Maingy and the first named deposit); there are three separate deposits, Noirmont Lane, La Moye and Mont Cuet. These deposits are at wide distances apart and cannot be associated with the 25-foot beaches.

There are twelve well marked deposits in all. These range in height from 46 to 65 feet with a mean elevation of 54 feet. For ease of reference the level is referred to as "the 50-feet."

In Jersey this level is represented by deposit at an elevation of 60 feet.

It is not necessary for my purpose that I should discuss more fully the indications of this level in the smaller islands, but I must call attention to the fact that it is traceable on the coast of England; I shall be satisfied with one example. Both Godwin-Austin and Professor Prestwich (Trans. Geo. Soc. 2nd Series, vol. vi., p. 441 and Trans. Geo. Soc. 1892, fol. 279), describe a high level beach at Hopes Nose, near Torquay. Its height is 31 feet above high-water mark. Allowing 15 feet for the difference to O.D. we have 46 feet, and

allowing 4 feet more for the difference from the base of the deposit to its centre (it is a conglomerate overhanging ledge and the underside is taken for the height above high-water mark), we get the mean height of 50 feet. There are many others.

It has been suggested by our Jersey friends that these two elevations may be but different portions of the same beaches. This is not the case in Guernsey and the following quotation from the last quoted paper of Professor Prestwich disposes of that criticism (fol. 304).

“It has been suggested that the raised beaches do not indicate any alteration of level, being merely the remaining portions of the upper parts of the inclined planes up which the shingle was driven by storm-waves; but amongst other reasons, besides the considerable and varying heights (10 to 50 feet) of the beaches on the coast, the double cliffs (Weston, fig. 10 and Porthelms, fig. 12) the presence of *Baluni* attached to the uppermost rocks (Barnstaple Bay), at or above that at which they could possibly have lived . . . clearly show that there has been a change of level.”

Belonging to the group of low-level beaches is one of, in Guernsey, one or two feet above O.D. and in Jersey about 10 to 13 feet above O.D., but as this is associated with another proof of change of level, I shall defer the description to a later part of this paper.

THE HIGHER LEVEL BEACHES.

The deposits above 60 feet are not assigned by the Jersey co-workers to the same geological period as the lower beaches, and in that I differ from them. As the conclusions to be arrived at are at variance, I shall describe the deposit in this part of my paper and discuss the evidence later on.

In Guernsey we have four deposits between 60 and 75 feet. Three of these might be looked upon as high portions of the 50 feet beaches. I do not think they can be so classified, but the fourth is certainly distinct; hence I think they denote that the sea rose to greater heights, and that we have a true indication of a higher and rising sea-level.

I shall advance evidence to show that a beach at one time rested on the top of Guernsey; for the moment I shall simply say that the local clays are filled with pebbles that must have been derived from such a beach.

THE ERODED PLATFORMS.

As a proof of the different sea-levels the rock-platforms, land slopes and escarpments offer valuable additional evidence.

This evidence, however, would not fix their order, hence it has to be used in conjunction with that of the beaches.

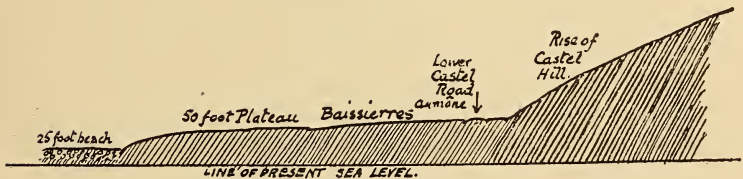
The platforms of the 25-foot level are directly associated with the beach and are common to all the islands, to the English and French coasts. All I need do here is to state that they are best seen along the East coast from St. Martin's Point to Fermain Bay. I give three photos, Nos. 2, 3, and 7.

Platforms belonging to the 25-foot level have the peculiarity of being very flat; as far as my observations go, they do not slope upwards at all.

It is probable that the battery at Fermain Bay has been placed upon a platform eroded by the 25-ft. beach, but I have not been able to confirm this. The reasons for this belief are as follows:—The retaining wall is built against a portion of elevated rock. This is evident from the way the slip between the walls has been cut down and graded from the solid rock. There would have been no object in cutting the rock down to make an entrance into the bay had lower levels existed; the battery platform is just at the same level as the Divette one, and there seems every probability of the builders having secured a rock foundation for both battery and tower.

The 50-foot beach on the other hand is not alway flat. It is at Hougue Noirmont and at the Capelles, but its position around the island is more marked by sloping ground. (See Diagram No. 1.) The lower slopes of the East cliffs may also be due to this sea-level. (See Photo No. 8.)

DIAGRAM NO. 1.



The eroded platform of the 50ft. beach, Castel.

At an elevation of 125 feet, Jersey shows a deposit on South Hill, for which I find no counterpart in Guernsey. This is considered to be a beach of tertiary times by all the members of the Jersey Society. I therefore leave it out of the discussion.

In this connection I may say that Professor Prestwich describes a beach at an elevation of 130 feet, which he places in the same period as the lower beaches. (See "Raised Beaches," *Transactions*, Geo. Soc., Feb. 10, 1892, p. 272.)

About this elevation in Jersey, at Col de la Roque, is a sea-worn shelf which should be taken as belonging to the same beach-level as the South Hill deposit. (See Photo No. 9.)

In that island also a deposit, found at an elevation of 280 feet, is thus described by Mr. Sinel, (*Geology of Jersey*, p. 30.) "A bed of pebbles, mingled with clay, on the high lands of St. Saviour's, near Princes Tower, and the many pebbles that occur in the brick clays of St. John's and St. Brelade's, are probably of the same period, as may be some marine deposits at almost the same level, at Surtainville, on the Normandy Coast."

I shall allude to this statement when speaking of the clays, but it is introduced here to give additional weight to levels represented by escarpments along the west of St. Saviour's, especially at the Dos d'Ane Road.

In Jersey and in the South of England well eroded platforms exist.

It will thus be seen that evidence exists of sea-levels at practically all elevations from O.D. to 300 feet. Using this evidence I formulate a progressive rise of the sea-level. Here I am met by a definite statement by our Jersey friends, that the order of deposition is the reverse in Jersey. I have, therefore, to show that there are connecting deposits in this island, which I shall speak of as Passage Beds.

Before bringing the Passage Beds into the discussion I shall briefly state the general argument of a pre-glacial submergence as proved by the beaches and caves.

THE PRE-GLACIAL SUBMERGENCE OF THE ISLAND.

I have, so far, enumerated the number of different levels which are indicated by the raised beaches and caves to be found on the island. It remains to demonstrate the order of their deposition.

In Guernsey, the evidence seems to me to prove that the order of the elevation is also the order of the deposition. If this is so, the 25-foot beach is not only the earliest Pleistocene deposit, but it is the first of the raised beaches.

The first question that needs answering is, are all the beaches of one period? Of one thing we may be sure, and that is, that they are all pre-glacial.

There seems to be in the lower beaches a regular succession as the following table shows.

T A B L E
OF THE ELEVATIONS OF THE LOWER RAISED BEACHES
SHOWING HOW THEY MERGE.

Beach.	Feet.	Mean Height.
Mont Cuet	23·2	} ... 25·5
Fort Le Marchant	23·4	
Grand Rocques	24·3	
L'Anresse Bay	24·5	
Grand Rocques	24·8	
Moulin Huet Cave	25·6	
Fermain Cliff, East	25·6	
" " South	25·9	
Moulin Huet, Cliff	26·0	
Grand Rocques, Butts	26·3	
L'Islet Quarry	26·6	} ... 34·1
Mont Cuet, Courtil Bas	29·6	
Miellette Lane	32·6	
" Hill	35·5	
Grand Maison Quarry	46·1	
Noirmont	54·0	
Hougue Noirmont	54·9	
La Moye Lane	55·2	
Capelles Quarry	56·7	
La Hure	65·0	
Mean of 4 estimated	70·0	} ... 70·2
Rouvets	75·0	
Mont Cuet, High Level	75·0	

There are many patches which have not been levelled, but they range themselves within one of the four series shown.

If we admit the Jersey levels, which in some cases are intermediate, we find that there is a regular advance in elevation which forces the conviction that they arise from a progressive rise of the sea.

RAISED BEACH PERIOD.

When I describe the connecting links between the above deposits, it will, I think, be seen how I have arrived at the conclusion that the beaches have been laid down in the order of their elevation and that they are deposits of the same geological period.

I consider that in Guernsey the beaches represent (with interruptions) a progressive and fairly rapid rise of the sea-level.

I have said that there were interruptions, but I admit that it requires years of study to realise them. I shall try to explain how they may be read.

1st.—The rock platforms are of different values, as measures of the times occupied by the sea in their production and this importance varies as the level rises. Thus the 25 feet beach appears to me to have taken a longer time to carve out its platforms than the 50 feet beach, and both these to have taken a longer time than the 130 feet beach (of which there is but little evidence here although well established in England).

2nd.—There is an old land surface just above the 25 feet beach (to be fully discussed later), which points to an arrest of the rise of the sea between the two lower beaches. (See diagram "Black Band," on page 353.)

These interruptions notwithstanding, the evidence is in favour of a progressive rise and a single period for them all. That that period was immediately previous to the first glacial deposits is evident from the fact that these deposits overlie them. That it may be seen that I am supported by the writers on these deposits I shall quote, as briefly as possible, several authors.

Professor Prestwich, in a series of papers read before the Geological Society in the year 1892, discussed the relation of the beaches to each other and to the rubble head and valley drifts. He enumerates the shells which are found in the beaches and shows that they belong to a warm period. He assigns the beaches (not dividing them into elevations) as of one period, and that immediately before the deposit of the boulder clay. In proof of the climate he shows that the shells of the beaches were those of a warm sea and states that some of these are now to be found no nearer than the South of Europe.

Dr. Nils Olof Holst commenting on the above (the Ice Age in England, fol. 438), says :—"In the Selsey Beach, the lower layer yields a marine molluscan fauna with forms of so southern a character that they have now to be sought as far down as the Coast of Portugal. This "Raised Beach" depression is clearly pre-glacial.

Mr. Clement Reid, in a paper read before the Geological Society (*Transactions*, Feb. 1892, p. 346), says :—"Professor Prestwich in 1858 announced the discovery of a raised beach at Portsdown, at a height of 125 feet. The work of the survey having thoroughly corroborated Professor Prestwich's view that these deposits all belong to one period, there will be no occasion here to discuss the question."

In view of the above statements it seems unnecessary to quote other authors, although such quotations are at hand.

Our Jersey friends also consider the Jersey beaches to be pre-glacial, but not to have been deposited in the order of their elevation; thus the 25 feet beach is considered as the newest.

If they are all of one period it follows that they must have been laid either in the ascending or descending order. I have no doubt at all that the evidence can only be made to prove an ascending order. If this be so, it proves a submergence, and that the submergence was of such an extent as to form all the beaches. I therefore formulate a submergence as the first stage of the Pleistocene Period.

Stage 1.—Part 2.

THE FIRST SUBMERGENCE.

Having adopted the ascending order for the raised beaches and having adopted the view that the distributed beach at the elevation of about 300 feet proves a complete submergence, I now proceed to show the order of the events.

THE 25ft. BEACH.

It is reasonable to suppose that in Guernsey the Pleistocene Period began with this beach. The sea-level rested at this height for a considerable time as is proved by the extent to which the cliffs are cut back on that level. It needs also to be remarked that the beach exhibits remarkable flatness, for in few places do we find any patches which may be taken to prove any great depth of beach. Of course this will depend largely on the sloping nature of the shore, and it may have been, and I think it was, much reduced by subsequent erosion. Still making full allowance for this, it still gives the impression of flatness. At Fort Le Marchant the beach rests on its rock platform, as far as can be seen, as a flat deposit of fairly uniform depth. Along the West coast it is rarely thicker than four or five feet. The rock platforms on our East coast are not shelving and the remnants of the beach are, in some places, only one foot thick. On the east coast the flatness of the platforms are thus quite remarkable and my conclusions are influenced by this fact. There is no doubt that the flatness has been the result of a long stay of the sea at the one level (a point of stability), but the irregularities of the natural beaches have been reduced by some powerful agency where the thickness is uniform. Exceptions to this rule are found in places, one of which I shall describe.

At Mont Cuét there are proofs that the 25 feet beach was laid down over a portion of the hill now far removed from the sea. In the quarry cuttings there are exposures showing that

the sea margin was well inland and that the sea washed the West foot of the Vardes hill. At Courtil Bas, situated between the Vardes hill and Mont Cuet, the quarry cutting is lined on both sides with a deposit of this beach, but here we have proof that no eroding agent was at work, for the pebbles are not laid flat as is the case elsewhere, but are all at a slope, showing that here is the top of the beach, and came to rest on the land side. Here then we have a good measure of the position of the extreme high water mark. The mean height of the deposits on the sea face is here just under 24 feet, and at the Courtil Bas the height of the beach-ridge is 29.6 feet. The pebble deposit of the beach had therefore a range of about 10 to 12 feet in this part of its coast-line.

If we give full weight to this fact and to the beds to be described in the next part, we must, I think, look upon the different beach-levels as different sea-levels.

Thus then we establish the fact that warm sea stood at the beginning of the Pleistocene Period for a long time at an average of 25 feet above the level of the present sea.

The steadiness of the sea-level was due to the fact that its rise was interrupted and a short fall alternated.

If we realise the idea of points of stability, we see that oscillations of level are to be looked for and it has recently come to our knowledge that there are indications of such an oscillation.

We have evidence that when the 25 feet beach was begun the land was sinking, or what is the same thing in effect, the sea was rising, we need not discuss the alternative at present, and we also know that a temporary halt in the rise set in. This arrest assisted both in diminishing the range of the beach and in flattening it. It will be asked, what evidence have we of this?

That the land was higher before the beach was formed is proved by the presence of cliff-falls of rubble which are found immediately below it, in places. The best example of this is found in the Belcroute Bay section as shown by Mr. Sinel in his "Prehistoric Times" (see section, page 365). Here is shown a deposit of cliff rubble with the beach resting upon it.

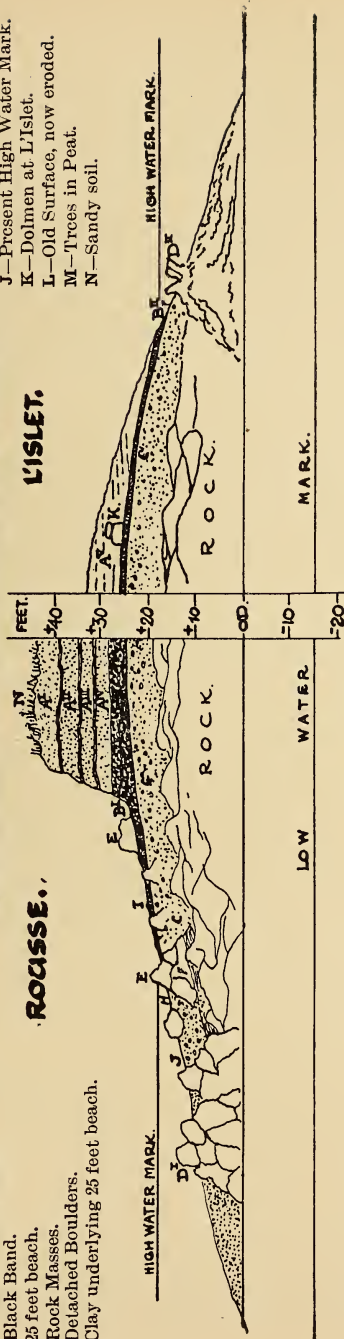
In Guernsey I have not found rubble under the beach, but that may be because our cliffs have been eroded differently; but I have found abundance of rock so worn as to suggest the long continued action of pebbles which are no longer *in situ*; the rocks show that the beach of their time was lower than the 25-ft. beach. (See Photo No. 10.)

DIAGRAM No. 2. Showing the "Black Band."

GEOLOGICAL SUCCESSION OF STRATA.

- AI, II, III, IV.—Superimposed deposits of blown sand.
- B—Black Band.
- C—25 feet beach.
- D—Rock Masses.
- E—Detached Boulders.
- F—Clay underlying 25 feet beach.

- H—Old sand accompanying F.
- I—Present beach.
- J—Present High Water Mark.
- K—Dolmen at L'Islet.
- L—Old Surface, now eroded.
- M—Trees in Peat.
- N—Sandy soil.



The fall of sea-level which followed we only know of recently, although I admit that a more diligent study of the literature of the subject would have revealed this to us many years ago and then we might have sought for the proofs in our own area.

It was found by chance, however, in the following way. When the L'Islet dolmen was uncovered it was found to be resting on the 25 feet beach, and it was also found that over the beach and under the dolmen there was a layer of black sand. (See *Transactions*, 1914, p. 123, diagram Nos. 2 and 5.) This deposit attracted the attention of the members of the Geological Section of the Society.

THE BLACK BAND.

During the summer of 1915 it was reported to the Society that graves had been uncovered on the seashore at Rousse and the Society held an excursion to investigate. The graves were not found on that occasion but the black band was. (Diagrams 2 and 5.) The graves found during 1916 were found as at L'Islet to rest on the beach of the 25 feet level and again were in association with the old earth surface, but this was nothing

but an accidental association. The same black band was seen to exist also at Vazon and here again on the 25 feet beach.

This caused me to look for confirmations and correlations.

A strengthening of the fact has been obtained by the finding of the band at Fort Le Marchant during military work. Hence the old land surface is well established here.

In Jersey, on the authority of Mr. J. Sinel, a band of sand (colour not given) occupies the same position. Dr. Holst draws attention to this old land surface and quotes Austin as follows (without any knowledge of the Guernsey find, the article quoted was published years earlier): "We may recall the fact that Godwin-Austin observed a black band, or in other words an old land surface, between the pre-glacial 'raised beach' at Sangatte and the super-jacent layer which belongs to the glacial depression; this surface would imply, at any rate, a short break in the sinking of the land."

Sir J. Prestwich describes the old beach at Barnstaple in the following words: "Overlying the old beach . . . are blown sands . . . or old dunes driven in from the shore after the uplift of the old beach." Again, he says, "A special feature to notice in connection with the raised beaches from Land's End to North Devon, is the frequent occurrence of dunes, over the beach and under the Head. These sands . . . are very commonly concreted." He remarks that the sands prove "that after the formation of the beach, the coast must have undergone sufficient elevation to raise the beach above the wave-action." We have such sands under the Head at Divette (*Transactions*, 1912, fol. 411, 376), but I looked upon them as merely small pockets of the sands of the old beach. Now, in view of the sands described which are in places 20 to 30 feet in thickness, and with the evidence of the black band, I see that they support the rise of land. Additional local evidence is to be derived from the lately discovered submerged beaches at Vazon, &c.

On several excursions of the Society (see *Transactions*, 1910, *et seq.*) there have been found patches of submerged beach in the bays, which the members were unwilling to accept as a separate beach level. The evidence accumulated, however, and now the level is to be found in four different places—at Vazon, Lihou, Pleinmont and the Braye-du-Valle. These are difficult to find, two being known by the digging of wells, and two easily mistaken for the old 25 feet beach as it rests on rock at the foot of the present beach. This very fact should have attracted attention as the lowest portion of the

25 feet beach could not have been laid there. But this point was missed.

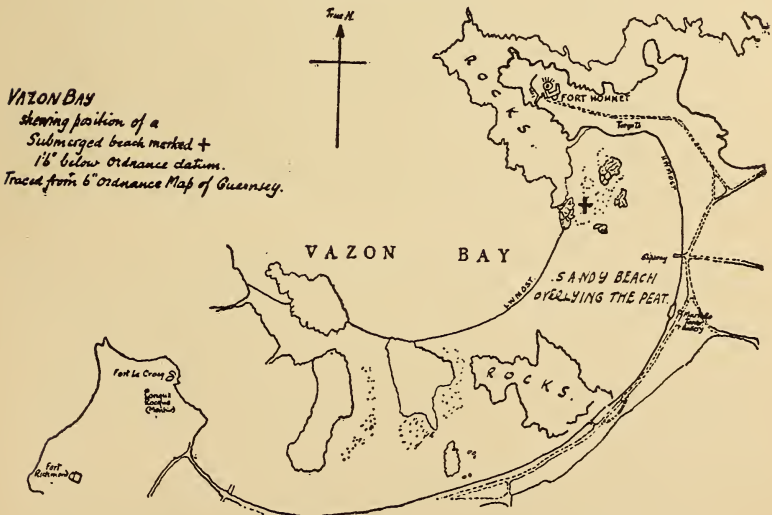
Looking for the same level on the English Coast I have found only one allusion to it, but that one is confirmatory, and is all we need as a correlation. Mr. Ussher, quoted by Prestwich (op. cit. p. 282, Geo. Soc.) In Daymer Bay there is a beach-reef on the shore, which is the only example known to him, in Devon, of an old beach below high water mark. It denotes an elevation of 5 to 10 feet.

In Jersey also a deposit has been found by Mr. Baal, who was induced by our find to dig a trench in Beleroute Bay to discover if an old surface existed. Choosing his spot for excavation with great foresight he came across, not beach stones certainly, but what was just as valuable, a bed of peat, evidently of seaweed origin, which I presume was a deposit of seaweed at the top of the submerged beach.

All these finds confirm each other, and we may consider it proved that a rise of the land followed the deposition of the 25 feet beach.

By the kindness of our Secretary, Major Carey-Curtis, I am able to illustrate the Vazon patch of the submerged beach which will enable any seeker to find it. (See Diagram No. 3.)

DIAGRAM NO. 3.



Connected with the arrest of the sea, after having deposited the 25 feet beach, there are both here and in

England beds of sand, which I have just described other than the black band, that denote a dry land surface. These are to be found here between the Vrangue brickfield and the newly opened road. A thick deposit of sand was exposed over the 25 feet beach, which runs along the rise of land from the First Tower to the Coutanchez, that belongs to the time of the beach. Also on the East coast, under the cliffs, there are patches of blown sand between the 25 feet beach and the Head.

In England, especially along the coasts of Cornwall (see Prestwich, *op. cit.*), exist equivalent sand deposits of considerable thickness.

Of one thing we may feel confident, that is that the black band is evidence that the elevation of the land was temporary only, but long enough to permit of the growth of vegetation. This is only evidence of the land surface which rested on the ledge of the beach which was enormously more extensive than now, but as so far the land higher up had not been submerged by the 25 feet level of the sea the evidence of the temporary rise is confined to the margin of that sea.

I associate the Sark Caves with sunken floors with this rise of the land, at all events as far as their floors are concerned.

The 50 feet level was the sea's next stopping place. Of this we may feel assured, for there are no extensive beaches, nor are there any well-marked platforms; but there are intermediate deposits of beach stones in both islands, which, I think, points to a successive rise of the sea-level.

At the 50 feet level the conditions change, for not only do we find well formed and extensive beaches, but the rock platforms in Jersey and in the South of England denote a long rest at this level.

In Guernsey we have no visible platforms, possibly because they are covered, but we have slopes already referred to which connected the two levels of 25 feet and 50 feet which, I think, can only be the result of the sea at the level of 50 feet. These are extensive on all the marginal low lands, inland, and in some places, as on the Dos d'Ane Road (lower level), there are patches of pebbles brought to light in well-digging.

This is the second "point of stability," and is worthy of future study. (See Diagram No. 1.)

As the sea rose still further the higher portions of the last beach were deposited and patches of 60 feet to 75 feet occur. Although I show in Guernsey a fairly marked level of 75 feet

I do not formulate an arrest for the sea, for it is connected up by 60 feet to 70 feet both in Jersey and in England.

We now have to consider the evidence of a further rise of sea-level. I admit that the higher levels, between 75 feet and 300 feet, are not well marked in Guernsey [the cave at Les Tielles is a doubtful evidence of sea level but it may be a sea-cave (see Photo No. 17)] but they exist in the South of England, and as Professor Prestwich believed them to belong to the same period, the evidence of a continued rise is, I think, to be admitted. When we arrive above 200 feet, the evidence depends entirely on the acceptance of the pebbles in the clay, as proving that a beach was laid down at about 300 feet.

I think that there are two points that must be well considered and given their due weight. These are the fact that in Guernsey, in Jersey and in England (South), the clays yield numbers of these beach pebbles which must have been derived from a beach, and also that that beach was distributed before its constituent pebbles had time to be cemented into a conglomerate.

All these different levels have left marks; not only those described but inland cliffs or escarpments. What weight we can give these is uncertain, for we have not sufficiently studied them. We are not quite sure, for instance, that these steep slopes of St. Saviour's and the upper Hubits in Guernsey and below Don Bridge in Jersey are due to this period. I therefore do not bring them into my argument; but there are minor deposits at high levels which are most significant; such beds, for instance, as sea-sand at the top of Route Isabelle and at the top of the Calais valley, and sea gravel at the top of the Hubits valley. These deposits are all above 200 feet elevation and one is at 250 feet.

CHANGE OF CLIMATE INDICATED.

In the islands no writer has described any marine fauna in the beaches and, as we have seen, Mr. Sinel thinks they have been destroyed; but in England there have been found shells, such as now exist in the South of Europe, associated with shells now common to our latitude. Prestwich, however, speaks of the latter being stunted, of small size and falling to pieces when touched. Remarking on this statement Dr. Holst writes as follows: "This I believe to depend on the fact that the water here on the South Coast of England, which had become more and more cold, . . . became altogether too cold . . . to permit of the molluscan fauna reaching its full development."

ANTHROPOLOGICAL EVIDENCE.

Both in Jersey and in Guernsey have been found in the 25 feet beach, implements which can only be associated with a pre-Chellean culture, but in the clays have been found some of the Chellean types (see Photo No. 11). The latter we may take it have come (some are pebbles) from the upper beach and sands, and one has been found by Dr. Kinnersly in a deposit which I look upon as of marine origin.

Thus this evidence, as far as it goes, is confirmatory of the advanced theory, that :—

- (a) The beaches are pre-glacial.
- (b) The beaches follow each other as to time, in the order of their elevation, and
- (c) They prove a total submergence of the island as an event occurring at the commencement of the Pleistocene Period.

This will be still further strengthened by the evidence of the intermediate deposits, which I next describe under the title of Passage Beds.

Stage 1.—Part 3.

PRE-GLACIAL DEPOSITS FORMING. PASSAGE BEDS.

I have so far dealt with the evidence of a pre-glacial submergence as afforded by the raised beaches. I now proceed to fill certain gaps between the beaches, the deposits of which cannot be depended on for the main facts, but are of value as confirmatory and connecting evidence.

In this part I shall still confine myself to the deposit of this submergence, leaving other deposits to fit in when I am treating of their causes.

The term "passage beds" is perhaps hardly the one to use ; but it conveys the meaning I wish to give them, that is the beds or deposits which have been laid down during the beach period and between the beaches and yet appear independent of them.

Such beds are of small area and are strictly local, depending on the nature of the ground they are deposited upon. Although these deposits are of small extent, often but a few feet in length, they occupy definite positions which, I think, gives them a true geological value.

I may at the same time add a few facts, not considered necessary in the first part, where I was more concerned in establishing my argument than the filling up of detail.

The rubble found under the raised beaches in places, as at Belcroute Bay, Jersey, may be taken as an indication that the sea-level was rising because an undercutting of the cliff must have been in progress to cause the fall. Such rubble deposits are to be found under the beaches wherever there is enough height of cliff. Besides the example above given, one may be given for the island. This will be found, when an opening occurs,* at the Garenne at Anneville.

Another type of deposit is a marine sand. This will always be found below the beach with which it is associated. An excellent example exists at l'Ancrese. At the Vale Church there exists a very large 25 feet beach, but it is not above ground, and therefore is but little studied.

On the North side of the hill on which the Church stands is a new cemetery, the graves of which are dug out of and through the beach deposit; overlying the beach is a thick deposit of white sand of old date, that continues upwards until it comes in contact with the aerial deposits of the 50 feet beach. This upper beach has disappeared as far as I can determine, but it can be localised by the sea-washed rock which is found on the West side of the Church. These deposits have sea-sand below them quite different in kind from the white sand which is over them.

At Mont Cuet there are intermediate beds which well illustrate these links between the more evident deposits and show continuity of deposition. Here the 25 feet beach is immediately followed by the clay which underlies the 50 feet deposit, and so closely does the upper beach rest on the whole that for years I looked upon the two as one. This was rendered impossible by my discovering the limit of the lower beach at Courtil Bas. Above these are sandy soils slanting upwards, then an abrupt rise of rock and a deposit of the 75 feet beach. (The later is not far from the house at the top of the hougé.)

At La Côtes quarry the 25 feet level is represented by an out-crop of sea-washed and smoothed rock which has been completely covered by sand and clay (the same as at Mont Cuet), and above is the remnant of the 50 feet beach which tops the hill. The sea-worn rock has been buried beneath these deposits, and being loose grained and macrocrystalline has disintegrated and has given rise to pockets of coarse gravel in the clay and sand. This would be difficult to explain but for the fact that the included stones are found, *in situ*, in all

* While this paper was in the press a well was opened off the Anneville Road between the Capelles and Anneville, which fully confirms this forecast.

stages of disintegration. These intermediate beds can be traced in most of the quarry cuttings, and there would be no object attained by detailing a greater number as the earnest student will have no difficulty in finding them.

Instances of the occurrences of passage beds could easily be increased as they exist in many places. I think, however, that the instances I have given will suffice and that I may now conclude the 1st Stage of the Pleistocene Period by a short *resumé* of the order of events as shown by the Guernsey evidence.

1st.—The period began with elevated land and a rising sea-level.

2nd.—Aerial rubble land margins, the result of weathering, was attacked and washed away except small residues.

3rd.—The rising sea, acting for a very long period and rising very slowly, wore out rock platforms and deposited a line of beaches all around the island on the then 25 feet contour, which differs in places from the present sea margin, but it is nowhere far from it.

4th.—The sinking of the land was arrested, giving time for the 25 feet beach to increase the erosion of the platforms, causing that beach to limit its erosion of the land.

5th.—The sea erosion being arrested a small accumulation of land rubble, clay and gravel was formed.

6th.—The sea-level retired some 10 to 12 feet. The submerged beach was formed and a land surface established over the 25 feet beach.

7th.—The sea then rose to the 50 feet elevation comparatively quickly, leaving a trace of passage beds to mark its progressive rise.

8th.—The 50 feet beach was then eroded and the contours modified. Although less important in extent and duration, yet this beach was the result of a longer period of sea erosion than those which follow.

9th.—The rapid (comparatively) advance of the sea-level to the upper beach marks and the gradual disappearance of the island under the sea.

Thus was completed the pre-glacial submergence.

It may be of interest to our members for me to outline the little we know of the inhabitants of the island during the beach period. We have the fact that the beaches have yielded pre-Chellean and Chellean implements, all of which belong to a pre-Mousterian type. Further than that type it

seems evident the cultures did not advance. The evidence of the upper marine sand is rather in favour of the men still existing here when the island was left above water, but a low island not more than 50 to 60 feet in elevation; after that it would be impossible for even a small tribe to find the necessary food and the last remnants of the men of that period had to disappear. I have no evidence to guide me in making a definite statement how.

Stage 2.—Part 1.

THE EMERGENCE.

As the Island was completely below the water, the next stage must of necessity be its emergence from the pre-glacial submergence.

A mass of sedimentary material must have been deposited while the land was beneath the waters and that sediment would of course be a deep sea deposit.

It may seem strange that no trace of this mud has been found. The process of submergence left abundant traces as described in the 1st stage. The evidence of submergence is indisputable and the emergence cannot be set aside because there is no deep-sea deposit found on the uplifted land. How then to account for the loss of the deposits?

Let us devote a portion of our space to explain the different effects we must expect under the reversed motion of the land.

1.—Effects of rising and sinking sea-level.

These are quite different. A given sea-level will affect the land margins in different ways, depending on (*a*) its persistence, (*b*) its rising, and (*c*) its falling.

(*a*) If the sea-level is without change it does not gain on the land, nor does it undercut the cliffs, but it does eat up the existing beaches reducing the pebbles to sand, which in high winds are driven on to the land. Hence, the formation of sand dunes on a sea shore is an indication of a steady sea-level. This does not exclude the formation of new sand dunes from old deposits of sand by wind action on exposed coasts.

(*b*) A rising sea-level will cut into the land removing the débris by grinding it down into beaches and sands, and washing muds and clays resulting from land drainage and rock decomposition to the adjacent sea bottoms. This process is now going on on our coasts, and is the process we are familiar with. (Incidentally, I may say that this

is the cause of the constant need of the renewal of the sea-walls and the recurring inundations of our low lands.) The evidence of a rising sea-level is therefore to be found in the rock platforms, beaches, caves and cliffs.

(c) A falling sea-level on the other hand washes off the land margins, the accumulations resulting from the former rising sea, removing these to lower levels, but adding no new material to the shore above its level. When the sea-level is falling off, irregular land like the Vale, the tops of the hougues are deprived of the softer muds and clays which have settled on them, and the tops are left with the harder deposits or rock faces which the sea has not had power enough to remove.

Thus a rising sea-level is marked by beaches and a falling one is not. When, therefore, the land rises from a submergence only a remnant of the deposits formed by the rising sea is left to tell the tale.

The deposits resting on the island, however, would not be as thick as nearer the high continental land, for it would be lessened by the situation of the island and its small size. By the time the depositing waters reached Guernsey they would have already dropped all the heaviest material and the island would be the recipient of a soft, fine, easily suspended mud which would rest on the surfaces of our land so lightly that the sea during the emergence would not only have plenty time to wash it away, when disturbed by wave action, but by keeping it suspended in consequence of its motion, would carry the suspended mud as far from the island as it had previously brought it. Thus it follows that the island would not permanently hold any deposit it had acquired.

It may be asked whether the rate of the emergence would be such as would make it possible for the process of denudation to take place as described. Of course, in reasoning, one must be influenced by the facts. The deposited mud is not found on the island. It must have been deposited. Therefore, it is logical to assume that it has been washed away.

The Geological authors I have consulted are so uncertain as to the number of submergences, the number of glaciations and the mode of the formation of the glacial deposits that I cannot decide between them, and must be content with putting my evidence forward and the impressions I derive from it, and leave the future to sift out the truth.

Assuming the correctness of the deductions just set forth, we have now to consider the emergence from the point of climate.

Just as certain of the mildness of the submergence is the severity of the emergence. Of this we have abundant proof.

As we cannot find evidence of the extent of the rise of the land we have to be content with the fact that it was sufficient to very completely freeze the rocks and break up, *in situ*, all the softer kinds. The effects of elevation and cold would be an accumulating one, for at first there might not have been perpetual cold, but rather cold winters and warm summers; hence, every change of temperature would have far-reaching effects, owing to the entry of water into the rock joints in summer and its freezing in winter.

As the glacial period, which was to follow, approached and the emergence continued, the island would receive and retain the moisture of the Atlantic winds and snow, until the summers ceased to melt the winters' falls and a permanent ice-cap resulted.

Stage 2.—Part 2.

THE PERIOD OF THE DEPOSIT OF LARGE DETACHED BLOCKS OF STONE.

Resting on the 25 feet beach, or where that beach has disappeared, resting on its platform, or it may be on the foreshore, are immense numbers of blocks of stone.

There is abundant evidence that these were detached from the rock masses by frost. The blocks are all angular, or were so when they fell from their places, but their angles have been partly worn down by attrition since they were detached.

Where these blocks are associated with cliffs they are found to be the earliest deposit. As the glacial clays of the cliffs are above them we may safely consider them to be earlier than the "Head" (to be described further on).

These blocks resulted from the forcible rupture of the rocks by frost. Those which were so situated that they could fall did so, but large masses of them were detached on the lower levels and remained *in situ* although detached. How these were to be effected by glacial conditions will be seen later.

All our coasts provide examples. As for instance on the West Coast where thousands are strewn on the foreshore. (See Photos Nos. 12 and 13.)

In the Geological Report in the *Transactions* of the Society of 1895 the Secretary drew attention to the appearance afforded by the detached blocks and stones, but did not make the distinction between frost sepa-

rated stones and rolled boulders, which had dropped from later formation, clear. Allowing for this, I think his remarks pertinent and copy them:—"In the Vardes quarry pockets filled with old beach are found underlying large decomposed boulders, some of which boulders seem to have been rolled, while others had only slipped a short distance along the jointing planes. In the Pulas beach quarry, the old beach is seen to pass under the "Head" three or four feet thick. The great rock at the projecting point East of Pequeries Bay is one of the most extraordinary specimens of riven rocks in the island. The immense blocks have separated along the jointing planes and slipped outwards in every direction. The largest block measures $35 \times 13 \times 16$ feet, and is estimated to weigh 300 tons. It has not only slipped, *but has turned over* (my italics), and is lying on old beach and "Head" which rests on a sea-washed face of rock."

In Jethou the detached rocks, separated in the same way, are enormous in size, even exceeding the quoted example. This same fact was long ago noticed in England. I give one statement as an example. "We everywhere may observe a passage downwards into beds which mark a time when the degradation of the surface proceeded much more rapidly than by the mere effects of decomposition, and when fragments of rock, and even blocks of large dimensions in certain localities, *far exceeding the moving power of any rainfall* (the italics are mine), were conveyed down the very slopes along which only the very minutest particles are now carried."

These quotations will serve to illustrate the facts I speak of, and I pass on to endeavour to give my idea of the condition of the island as a result of the emergence and uplift.

As this will be followed by other stages which will recall the conditions here described, it will suffice for me to say that the surface of the island was denuded of loose material, and that the rocks were frost-riven and all surfaces covered with angular blocks ready to be moved by the agencies at work in the next stage, the glacial.

Stage 3.—Part 1.

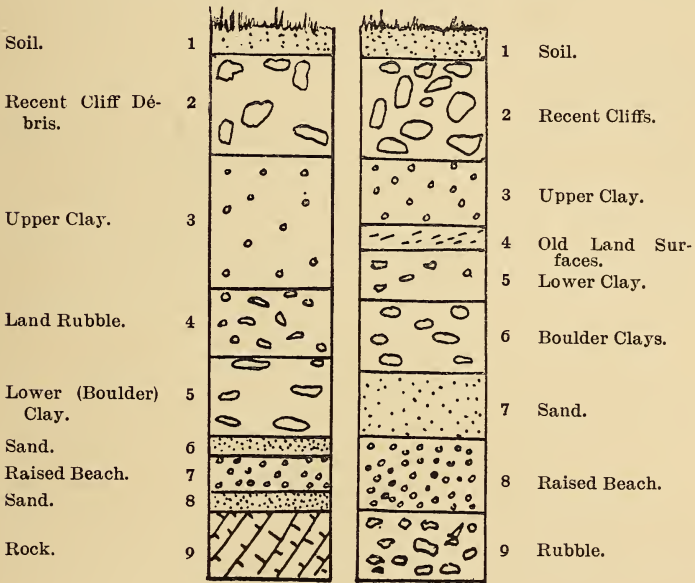
THE DEPOSITS USUALLY CLASSIFIED UNDER THE TERM "HEAD."

THE FORMATION OF THE "HEAD."

These are deposits covering the cliffs, which, everywhere on the borders or coast lines (except such places where sea erosion has removed them) of the Channel. There are successive layers of angular stones, interspersed with clay

and sands in bands of various thickness, clay with rounded boulders and clay without stones or even gravel. These deposits are not the same everywhere but vary with the district, being uniform only in their position as regards the geological horizon in which they occur. Thus the coast deposits immediately overlie the 25 feet beach. (See Diagram No. 4.) They all contain the large stones described in

DIAGRAM NO. 4.
Section showing the formation of the Head.
A B



GUERNSEY.

JERSEY.

the last part, and (or with few exceptions) two deposits of clay, one of which is usually termed a boulder clay because of the association with boulders as distinct from stones derived from the cliff falls, the second being termed the upper clay which has a distinct appearance of a clay deposited from water by settlement.

Inland these occur on the slopes of hills, but some of the layers are missing, the succession being only to be demonstrated by combining a number of deposits.

The differences are such that only by studying all the deposits together instead of separately, as is usual, their true succession can be made out. For instance: at Brighton the upper

clays (chalk derived) is ossiferous, but here we have no animal remains. In both we have the lower boulder clay, and hence have to decide only where the ossiferous deposit belongs. We are assisted in this determination by the deposits in the English caves and rock fissure which contain the same animal remains and can place them in series between the two clays.

The "Head" is a collection of deposits (the remains of the original deposits) that have taken the whole Pleistocene Period to form.

By means of these deposits we are able to trace the order of events. Thus, there are sands the time of the 25 feet beach, of the 50 feet beach, and there are sands of the period separating the clays, and we find that the upper and lower class are separated by a land surface.

Some of the inland deposits, on account of their association with the beaches, are described as passage beds, but these may also have their equivalents in the heads. At Miellette Bay (see Diagram No. 13) the deposits are such as are described by Professor Prestwich as "Head," and yet they contain marine sands not to be found on the cliffs, but are correlated by the deposit of the upper clay and by a presumed old earth surface.

In order to give the proper value to the "Head" it will be necessary to show the different types of "Head" to be found here (and in the other islands) and describe their modes of formation.

1st.—AERIAL.

These have been formed at all times and in all places where there has been sufficient height and steepness of cliff to permit of the fall of the loosened rock. An example of this "Head" is to be seen at Bon Repos and at Les Tielles as well as in several adjoining cliffs.

The process to be seen is both rapid and extensive. At Bon Repos the base of the cliff has advanced on the top of the beach quite six feet since I began to observe it. (Photographs Nos. 13 and 14.) This type does not depend on the sea at all, for it may and does occur inland. The requirements are a soft and decomposed rock with its joints parallel to the exposed face. Where this "Head" falls on a beach it appears in the section, where it falls on land it becomes covered over and is lost to sight under later falls. An example of the latter is to be found at several places on the old cliff above Pleinmont Point. There are examples of this type to be found along the cliffs where they tell of the occurrence of elevated conditions. These are intermediate

with other types showing climatic changes and changes of elevation.

It must be noted that the type here described, being the result of the aerial weathering of a saturated and partly decomposed rock, consists of angular pieces of rock, partly softened on their exterior surfaces mixed with the sand and clay which has been derived from the completely decomposed portions, hence the resulting rubble is a mixed mass of loose angular stones with clay and gravel. This type cannot easily be mistaken for any other kind.

2nd.—HEAD PRODUCED BY FROST.

This type is quite distinct. It consists of angular stones of all sizes which may be (on the flat) *in situ* or may have been moved short distances by various agencies. Where these stones have been separated from a cliff they have fallen to the base, and if not subjected to erosion have maintained their angular surfaces, but it must be noted that these angular surfaces are parallel to the jointing because the frost that has separated them from the rock masses has acted by freezing the water in the joints. This type is, therefore, an indication of an elevated land and severe climate.

3rd.—DEPOSITED HEAD.

This consists of clays, gravels and easily moveable material which has been redistributed, and may be a mixture of all other kinds of "Head." These deposits must be determined by their separate and distinctive characters.

STREAM GRAVELS.

Under this heading I class any deposits which may have been washed down from high to low levels consisting of disintegrated rock material, rolled or unrolled, by rushes of water or by rain sufficiently heavy to cause the deposit to remain unmixed with surface detritus.

The "Head" in Guernsey consists of all the described kinds, and covers the whole period of time since the Pleistocene deposits were begun.

In the chapter on "Emergence" I have described the earliest deposit and in the proper places I shall describe the other subsequent deposits, but to have their order in mind I shall enumerate them here.

1st.—Blocks and stones of all sizes detached by frost acting in the jointing of the rock. Such stones are angular and retain their natural faces. These belong to Class 2. (See above.)

2nd.—Boulders, that is stones of all sizes which have been rolled and moved from their place of origin.

3rd.—Rubble of aerial origin.

4th.—Clays (*a*) of local origin ; (*b*) of glacial origin.

5th.—Deposited sands, wind blown sands and gravels.

6th.—Beach stones and pebbles, *in situ* or redistributed.

In this list it will be perceived that there is no "Head" having the same nature as the Brighton "Elephant Bed," but nevertheless our "Head" covers the same period, for it covers all the Pleistocene Period, but we are not influenced by the more recent "Head" to place the whole formation down to one portion of that period.

We have, in the islands, no equivalent of that bed in the Raised Beach Period, with which it is associated by Prestwich and others ; on the other hand the discovery of the *Elephas Antiquus* in Jersey places any possible equivalent, in the islands, much later in time than the Beach Period.

I have stated the deposits which go to form the "Head" and the fact that it extends all through the period under discussion, and I must now leave it to the future stages to show how each component has been acquired.

After the deposit of that portion of the "Head" described under "Emergence" the conditions became severely glacial. The ice-cap was permanent and it performed a great work in breaking down the upper levels of the island, but as already stated it does not seem to have directly added to the "Head" nor to have caused any deposit that can be identified ; yet it will be evident that it had an enormous effect in reducing the rock material to a condition favourable to its future deposition on the island surfaces.

The elevation was high enough to connect the group of the three islands, Guernsey, Herm and Jethou for the North-East end of Herm was not affected by the early advent of floating ice-floes as was the North end of Guernsey. An ice-cap rested on all three islands no doubt, but its effect on each was different. On Jethou we find no decomposed rock and no glacial clay. The one thing means the other for, as I shall show, the glacial clay is the result of the friction of the ice-cap on the easily rotted and decomposed rocks of the southern half of Guernsey. There being no soft rock in Jethou the ice simply rubbed it bare and left it so.

Not so, however, in Herm. The rocks of the higher portion of Herm are soft enough to have been permeated by water and broken by the subsequent freezing to be worn away, but with a distinct difference from anything we find in

Guernsey. The Herm rocks contain nodules of harder materials from which the looser crystals have started in the solidification of the rock masses, and these nodules refused to decompose, and during the movement of the ice they lost all the softer skins and rounded into true boulders. These boulders were, then, the result of conchoidal weathering then of rolling by ice into round or oval smoothed stones having the appearance of huge pebbles.

It is worth a visit to Herm to see these boulders, which must have rested thickly on the top of the island, as they are now arranged by some proprietor, into a dry wall.

There are rocks of the same kind, which weather conchoidally in Guernsey, but these are at too low a level to have been rounded by ice, and they offer the contrast of being rough and irregular in the shedding of their skins.

The ice-cap of Guernsey produced boulders in large numbers, but they were rolled out of the torn masses of rock and are not as globular as the Herm ones.

I have no evidence to offer as to the elevation of the island at this stage, but there is indisputable evidence that the ice-cap fed the valleys and eroded them. I think, therefore, that a moderate elevation seems all that is indicated. Whatever the height the island was raised to matters little from the insular point of view, for if it was raised say, 30 to 50 feet, above its present level the rise would have been sufficient, under the glacial conditions then existing, to have frozen the lower rocks and forcibly detached the blocks of rock described in the last part.

The elevation completed, the reverse motion set in and a progressive sinking began.

The British Islands were by now covered by an enormous mass of ice (see Geikie "Great Ice Age"), and it is thought that the weight of the ice was the cause of the uplift which occurred here. This was effected in two ways (*a*) the weight of the ice depressing the land in the extreme North, and (*b*) the lowering of the sea level by the removal of water from the sea and locking it up on the land.

The continuation of this cause soon had, however, a contrary effect, for as the ice increased in bulk and weight, it also covered the land to much lower latitudes, and the southern portion of these lands surfaces, feeling the weight, also sank.

Guernsey was involved in this later movement and also began to sink. At first, only the outside of the united islands (Guernsey, Herm and Jethou) came in contact with the floating ice-floes which formed on the margins of the

Channel coasts, and as the sea-level reached the old 25 feet beach, the ice began to eat off the beach, and in this way a large part of the outer portions of that beach were eroded off from the positions on which it had managed to retain itself.

The islands sank further and the point of stability at 25 feet was passed and the next, that of 50 feet, held the sea for a short time, and the ice mounted the cliff and grounded on the shores, tearing out from the one and twisting off from the other the frost detached rock blocks and thus laying down the first part of the "Head."

These angular blocks fell on the remainder of the 25 feet beach, and, as they were soon covered by the future deposits, they still rest there.

The sinking continued, and one after the other the islands were divided from each other. I think there is reason to suppose that Jethou was much longer under the influence of the floating ice than Herm for the enormous blocks (see *Transactions*, Vol. I., Jethou), appear to me to have been moved in larger numbers than those of Herm. To understand this we have only to look at the map of the united islands to see that the ice would be able to attack Jethou from the South side before it would reach Herm where the water was less deep.

The submergence I am now describing I term "the Pre-Mousterian" so as to distinguish it from the first which I described as "Pre-Glacial."

By its consequences on our island we recognise this glaciation.

It will naturally be asked where the floating ice came from? Of course, the island does not afford evidence on this point, so we have to accept the statement of the Glacialists who tell us that the bergs calved off the land in the Irish sea and floated down the Atlantic as far as mid-Atlantic islands.

Not all of them though, for a large number of them, under tidal and gulf stream pressure, got into the Channel and there became jammed.

Assuming that this part of the Channel was covered with ice which would consist of small bergs and pack-ice under pressure, it would follow the course of the circulating water and have a general movement around the French coasts, forcing its way through the passages between the islands. Those passages would be more constricted than they are at present owing to the Casquet, Schole and other banks being then above water; indeed, we may take it that it was at this

period of their geological history that they were ground down to their present heights.

The enormous pressure exerted by the ice as it worked its way along tore out of their places the blocks of rock which at all levels had been disconnected by the hard frost of the elevation just passed. These were deposited on the eroded 25 feet beach and on the shore line as previously described (see Photo 14). On the North of the island they can be seen in hundreds lying in confusion as they were left by the ice. On the West coasts they lie in fewer numbers but still are numerous.

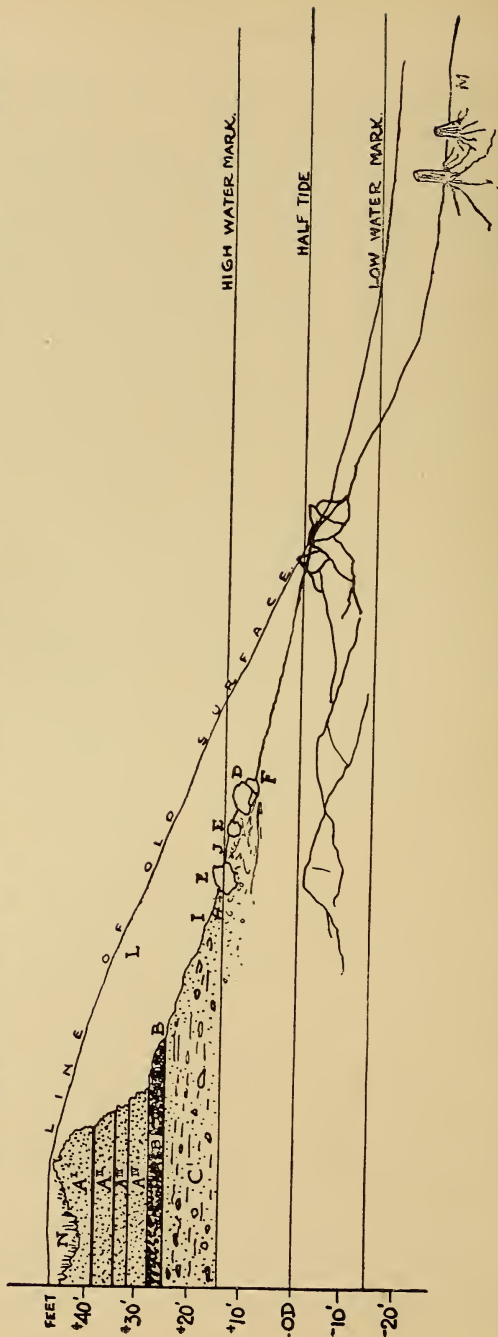
In observing these care must be taken to differentiate between the stones of this period and others which have fallen on to the beach in much more recent times. For instance, near Lihou, a block carved out into a shallow basin rests among the frost-riven blocks. This comes about in the following way. The 25 feet beach has been eroded off the foreshore, and with it the later deposits which had covered in post-Glacial times and in Neolithic times, and the blocks of the Glacial time were lowered down as the undercutting proceeded; but as all accumulations of later periods, including the Neolithic soil and its contents, were above the blocks, the removal of the soft earth, sand, etc., forming the shore let down the whole contents of the accumulated deposits, and the large stones which the present sea has not moved find themselves jumbled together.

A good example of mixture of deposits bearing on this period is to be seen at Rousse (see Diagram 5). The ice-borne rocks which fell on the 25 feet beach rested on it before it hardened into a conglomerate, and the action of ice pressure assisted by tidal movement caused a partial redistribution of the beach and partly buried the blocks. In course of time the beach became hardened and the blocks cemented, making it look as though the frost-riven blocks were laid down first. This is disproved by the fact the beach is also beneath them. The jumble is further increased by the recent discovery of Neolithic cists also resting on the 25 feet beach. The true place of these cists as regards their position will be made clear when I discuss the Neolithic period towards the close of the paper. I have introduced the subject here to show that care must be taken in reading the evidence.

The comparative freedom of the East coast from the blocks forming the first part of the "Head" is, I think, accounted for by the fact that the Small Russel was not open in the same way as it is now.

DIAGRAM NO. 5.

RELATIVE POSITIONS OF ROUSSE BED & L'ANCRESSE NEOLITHIC FOREST.



For explanations of letters see page 353.

In judging of this we have to allow for the erosion (see Photo No. 12) which has taken place since.

This must be considerable, for the tides of the latest recent times must have swept away a vast amount of material. Even allowing for the higher sea-level, I still think that the bergs and ground ice would have failed in passing over the neck of land that joined Herm to Guernsey. It was not so with Jethou, for deep water existed along the line of the Ferriers from Pleistocene times. After some study of this problem I have come to the opinion that before the 25 feet beach, or any Pleistocene deposit was laid, a river, of small size it is true, started from the high land of St. Martin's (very much higher than now), took the drainage of the Hubits, Mount Row, Mount Durand and Montville (the George Road side of the divide being taken by a small tributary through Havelet, reaching the main stream at about the position of the wet dock opening), passed down a sharp V-shaped valley between the hills on either side of the Charroterie around the base of the hills out of which parts of the Market and Arcades have been cut. An old water margin is marked by a patch of 25 feet beach under the High Street end of the Arcade. The stream then ran over part of the site of the Church and rambled through the rocks which out-cropped in the then roadstead, passing the end of the White Rock arm, then stretching across to the tower and turning to the South passed between the Ferriers and the Bank. The passage between the Bank and the East cliffs was probably the result of the movement of the ice along the coast, but was begun by the water draining down the Fermain valleys. The river (which for the sake of clearness I shall name the St. Peter's River) East of the Bank was joined by that of the inner passage, and together they fell into a deeper one, passing North of Jersey on a westerly course. This I have always spoken of as "La Deroute" (Mr. Sinel also describes a river following practically the same course, but he places its origin in more recent times). These rivers were carved out originally in late Pliocene times, but the land drainage resulting from the glacial conditions, being enormously greater than the rainfalls of milder conditions, deepened the course, and these holding the floating ice rendered the pressure greater on Jethou than on Herm.

Assuming then, that at the commencement of the pre-Mousterian submergence the sea around the island was covered with ice, and that ice was jammed and exerted pressure on our cliffs, we can account for the forcible removal of the sea-worn

rocks from the face of the cliffs and for the deposit of such on the lower levels. One is visible at Moulin Huet Bay.

We also account for the erratics found on the 25 feet beaches in England as well as in the lower Head, for the bergs evidently travelled up Channel, as already stated, and were pressed by the jam in the narrow part of the Channel to the South coasts of England.

It has always been a puzzle how rocks occurring only in the Channel Islands and on the French coasts found their way to the English 25 feet beaches, and still more how these blocks became striated.

Given the presence of ice in the Channel and allowing for its circulation then it is a puzzle no longer.

This is the explanation adopted by Mr. Clement Reid. Of the English survey (see *Geo. Soc., Transactions*, February, 1892) to account for the erratics on the beach at Selsey. In his paper he figures one which is extensively striated and leaves no room for doubt as to ice being the cause of its presence where found.

Professor Bonney (see same paper) considered one of the erratics to be Scotch, and I see no reason why it should not have been carried down the Irish sea and then forced into the Channel.

The submergence continued until the island was again completely under water. The proofs of this I shall give after I have described the deposits of clay, for it is on this that I have to depend for the evidence of the next stage.

I now have to give the evidence showing that a local ice-cap was present on the island at the time of the maximum, and probably during the rise and decline of the glaciation.

The evidence ranges itself under four heads, as follows:—

- 1st.—The smoothing of hard rocks.
- 2nd.—The straight lines of erosion.
- 3rd.—The distributed boulders.
- 4th.—The altered form of the valleys.

I have stated that the rocks consisted of hard and soft. The hard resisted the influences of the soaking in the sea and must have consisted of sharp pointed outcrops, having much the type and appearance of the present sea-level form. The rocks on the top of the island were of the same nature as those now visible rising out of the sea, and the conditions when the top of the island was awash must have been the same; hence the upper surfaces of the island consisted of pointed hills with sharp rocks lifting their heads above any débris, which rested on their slopes and covered their bases

The height of these hills above the present high levels must have been considerable, for the result of their future disintegration covers the whole island with a mass of clay, sands and gravels of all depths, of from 3 feet to 20 feet, and represents an enormous weight of material. I am aware that some believe that the clays which will form the subject of a future chapter were brought to the island by floating ice, but I have found no evidence of this, for all the boulders, pebbles and angular pieces of rock found in the clays are of local origin. So far I have not found any erratics. One piece of striated schist seemed to me to be identical with a specimen from the neighbourhood of Cherbourg; but it was examined by Professor Bonney who showed it to be of local origin. (See *Transactions*, G. S. N. Sc., 1914.)

Assuming, therefore, that the wastage of material which occurred later on was all of local origin, we have to make large increases in the heights of the hills on the upper plateau of the island, for that plateau is now a flat plain relieved only by the curves of the beginning of the valleys.

We do not find these outcrops now, but we do find their bases, and wherever they are visible they show a smooth surface with a lowering in the direction of the valleys. These facts point to a weighty mass of ice moving over the top of the island and slipping down the valleys. The movements no doubt wore down the irregularities of the hard rocks, filled in the inter-spaces and marked their impress on the slopes of the valleys.

At the same time that very weight and movement would have a tendency to reduce the bosses and hills to a level, for the ice-cap was not uniform either in thickness or stability as it was of necessity weakened by summer losses on the slopes and by the falling of the ice-overlaps on the cliffs, and was moreover increased by each winter's snowfalls.

That some such action was going on is also proved by the fact that the clays that follow were laid down on an eroded surface.

The places worked as brick-fields all exhibit the features. They are topped by clay which shows a distinct line where it rests on decomposed rock. (See Diagrams of St. Martin's, St. Andrew's, Fauconnaires and Vrangue, No. 6.)

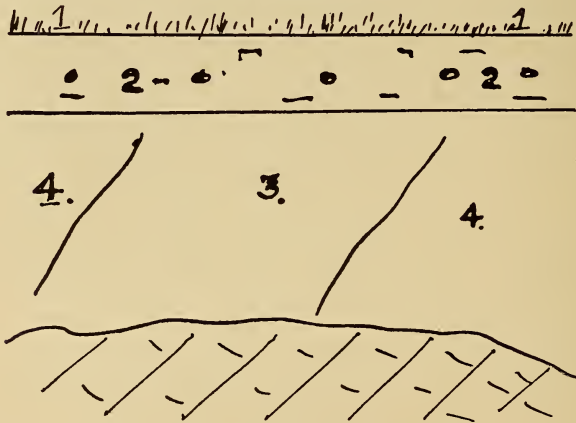
That the cause of this line of erosion was a moving weight is evident by the fact that the line follows the slopes of the hills and stretches across any small pockets where the softer material was protected.

The evidence of the boulders and beach stones found in the clays is also indicative of a stronger distributing force than mere rainfall, especially as there was no catchment area above the deposits. Rainfall would have caused a collection of loose stones and rolled stones in the water streams, and these would be found in the eroded valleys, but it could not distribute these on the extreme top of the island.

The boulders found on the highest levels are of all sizes and found either in clay or where clay has been washed away. Beach stones are also found in the clay of this period, and later they got from the high levels into the heads and even on to the lower beaches. Water agencies could not on our

DIAGRAM NO. 6.

Showing Clay resting on eroded surface of decomposed metamorphic rock at St. Martin's.



1, One foot of Soil; 2, Clay with Pebbles; 3, Decomposed Rock with straight eroded surface; Veins of Quartz in situ, resting on hard rock.

small area move masses of 20 to 50 tons so as to roll them smooth and deposit them at a distance; but on the other hand the sea could do the first on a beach, and ice could force such stones to the positions in which they are now found.

I have now to consider the evidence afforded by the valleys. I shall take as examples two of our valleys, one a long one and the other a short one.

If the observer will take his stand on the Chêne Hill at the Forest, or still better on the Forest end of the Hougue Fouque Road, and look in the direction of St. Martin's he will be struck by the flatness of the outline, but will be quick to notice that at the left of the picture there begin curves which

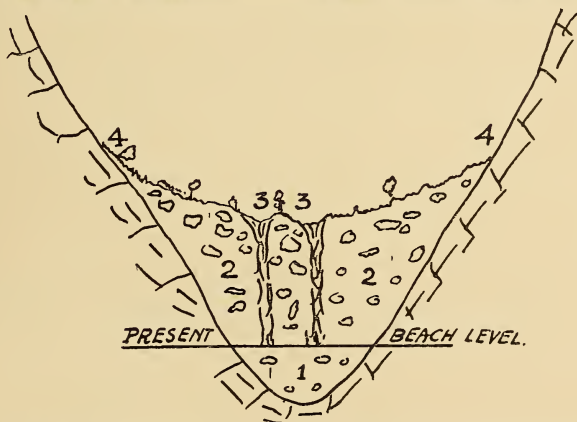
are the beginnings of the valleys leading down to the Grantez Farm, and looking to the same curves now visible above the valleys themselves he will again be struck by the regular trend of those curves towards the valleys.

At first it will undoubtedly be conceived that the curves are due to the action of rain, and so, in fact, they are as regards their recent surfaces, but on going up the valleys and closely examining the rocks on the upper valley margins it is seen that these have been smoothed in the direction of the slopes. This peculiarity is also seen in the St. Saviour valley sides. It will now be seen that these rock margins are responsible for the shapes of the hills and that ice erosion is primarily responsible.

The second valley is that of Moulin Huet, where we have a mass of valuable evidence (see Diagram No. 7).

DIAGRAM NO. 7.

Diagrammatic Representation of changes in Moulin Huet Valley.



1, Original water-cut valley; 2, Frost-detached stones fallen from the cliff; 3, Present water streams. Altogether inadequate to produce the effects shown; 4, Present outline of valley.

Note gravel in interspaces of rubble.

The section at the base of the valley, as seen from the beach, presents the following features:—

The bottom of the section is formed of angular stones which it is plain to see have fallen from the rocks above them along the sides of the valleys. These are stones that have been detached from their places by frost, and wherever the valley sides were steep enough they fell to the bottom. The section shows that this was not a continuous process but an intermittent one, for in between the stones there are deposits

of water-washed gravels and sands showing stratification. Here then we have cold without water flowing, in other words an ice-bound period which in turn gave way to a copious water-rush which washed all loose material down into the interspaces. After the first falls of large stones and the subsequent melting of snows the type of deposit changes, and we find pebbles and sea-worn rocks which have been brought down to the valley and dropped on the beach by being ice-borne, and with these are deposits of clay.

These deposits show the following:—

1st.—Evidence of dry cold, an elevated land and severe frost.

2nd.—Milder conditions with winter snows and summer meltings.

3rd.—A descent of ice down the valley carrying the boulders and wearing the contour of the valley from the V-shaped water valley to the cup-shaped ice valley.

The above show that the valley was not originally formed by any of the agencies I have detailed as belonging to the Pleistocene period, but that they pre-existed that period; they were, in fact, carved out during the Pliocene times.

The Moulin Huet valley is a hanging valley because it was filled up during glacial times and extended much further out to sea. The glacial deposits have been cut back by sea erosion of recent date.

I have found that the smoothed rock at the commencement of the valleys are more easily recognised in the St. Saviour valleys, where they cross the roads and lanes always with a trend towards the adjacent valley.

Ice-worn rocks on the coast are more difficult to determine and I am not depending on their evidence, although I believe that they are to be distinguished. The reason for the doubt is that sea-worn rocks are both smoothed and scored by sea and pebble action.

While attaching very little importance to the evidence thus afforded, I shall enumerate a few positions where the smoothed stones may be seen.

The large outcrop of quartz at Jerbourg is smoothed in places and a detached piece has markings on it which either result from a slide or from ice friction. I do not decide the point. At Moulin Huet there are detached rock masses which may be of this character, and along the south-east coast there are patches of rock showing the same conditions.

EXTENT OF ICE-CAP.

As the island was twice covered by ice, it should be possible to find some guide as to its extent.

In the case of the pre-Mousterian glaciation, the boulder clay passes under the submerged forests, and we therefore

DIAGRAM NO. 8.
Mont Saint Moraine.

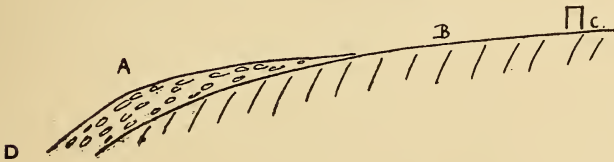
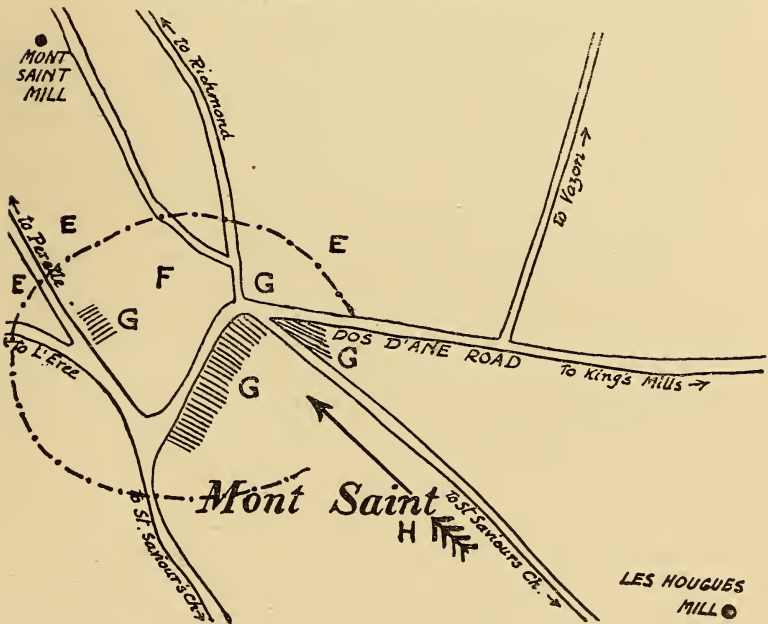


DIAGRAM NO. 9
of the terminal Moraine at Mont Saint.



A, The original extent of the Moraine ; B, The line eroded by the Ice on the top of which the road is situate, Les Hougues Road ; C, The mill, Les Hougues Mills ; D, The remains of the Moraine nearly destroyed in the cutting ; E, The original extent of the Moraine ; F, The roads passing through the Moraine ; G, The remnants of the Moraine ; H, The direction of the movement which produced the Moraine.

cannot expect to find on the land any signs of a terminal moraines and must suppose that none were formed on the

area of the present land surface. It is, however, different with the post-Mousterian glaciation, the extent we are able to limit by the deposits of inland "Head."

One example of the deposit will suffice, and I chose one of the St. Saviour's exposures because in that parish there are better and more characteristic deposits than I have found elsewhere.

By means of the diagram No. 9 provided it will be seen that the road near Les Hougues mill forms a kind of ridge of land with valleys or slopes on each side. If we suppose the island to be covered by ice we can see that there would be a thrust from the higher land along the ridge. The ice would, in part, pass down the Choffins valley and in part over the north edge of the ridge; but part would continue along the top of the ridge until it accumulated on the broader part where the mill stands. The thrust would then cause a movement towards Mont Saint, down the slope of which hill it would push the detritus it was detaching from the mill plateau.

The section (Diagram No. 8) shows this detritus arranged on the slope with its stones so placed that their inclination is that of the slope. This deposit of angular stones, derived from the rocks of the plateau, covers the whole slope and is visible on the road cuttings. It is only a small portion remaining of a previous extensive moraine, but is much obscured by the numerous cuttings through it by the roads and their junctions.

This deposit contains some of the remains of the boulder clay which resulted from the previous glaciation and has been covered by the upper clay which, although much denuded can be found under the soil of the plateau and on the hill.

Here then we have the probable limit of the second glacial cap. This is at an elevation of about 100 feet and, therefore, if it is accepted as the margin of the ice, would show that the lower slopes of the island were free.

Stage 3.—Part 2.

GLACIAL DEPOSITS.

THE CLAYS, THEIR NATURE AND MEANING.

There are deposits of clay of practically all stages of the period under discussion, and as some are of the nature of passage beds and have been sufficiently treated of already it will not be necessary for me to give more than one example in order to differentiate them from the more important deposits.

The clays found intermixed with rubble in the above beds are derived from decomposing rock at a higher level, and

has been washed down the slopes by rain. This clay is distinguished from boulder clay by its occurrence with the rubble and its stratification.

There is also a portion of the boulder clays which have been redistributed by torrents derived from melting snows. These later show stratification which is not visible in the true undisturbed boulder clays.

Examples of the first are found in many of the passage beds around the "Hougues," and one is visible in the Belcroute (Jersey) cliff section. The stratified redistributed clay may be seen in the "Divette" cliff section.

These clays form part of the "Head" and must be added to the "Head" as so far built up. That is, the "Head" now has the following components:—(a) the old beach, (b) the sands of the short uplift, (c) the rubble and (d) clay from the cliff of the time the large frost-riven blocks and the distributed material composed of all these intermixed by the ice floes.

The clays now to be described are the result of deep submergences which will form the subject of the next part.

There are two deposits: one laid down before the Moustertian period, the other after.

These deposits are in places lying conformably the one on the other, in other places they are separated by deposit formed under conditions which will be shown later on to be quite new to us, and telling of geological changes of great importance.

These two deposits are visible both in the Guernsey and Jersey cliff sections, but they are not confined to the islands but are traceable all over Scotland and England. I could give quotations to back this assertion, but I think the fact that no paper or book treating of the glacial period can be read without there being found abundant allusions to the deposits, make it unnecessary.

In Guernsey and Jersey these are spoken of as the upper and lower clays.

The lower clay is a deep deposit which although many exposures show from 3 to 20 feet depth, yet is only a remnant of much greater depth. There are numerous indications of very extensive losses by denudation.

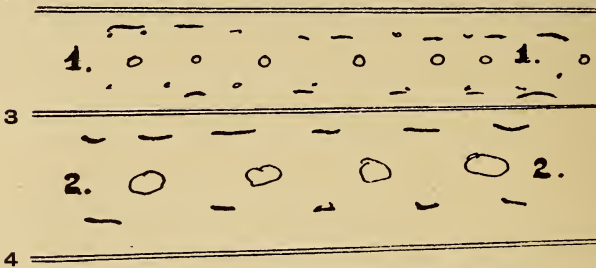
This deposit rests on the top of the island where it is invariably found, either on bare hard rock or on decomposed rock *in situ*. The hard rock is smoothed and takes the shape of the slope or surface; generally these smoothed rocks are to

be seen on the tops of the valleys and on the slopes at a fairly high level.

The softer rocks are completely decomposed, the granite or granitoid gneiss giving rise to gravels; the felsitic gneiss has become a mass of clayey material capable of being used directly as a brick earth. The clay rests on the surface which has been shorn off into straight lines on the flat that follows the curve where it occurs on the slopes, but the shearing off by ice is unmistakable. (See diagrams Nos. 10 and 11.)

DIAGRAM NO. 10.

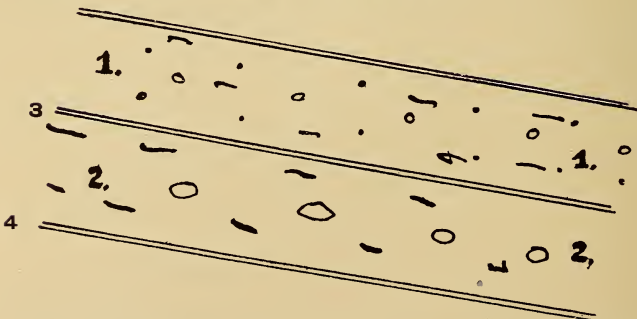
Clay Deposits at St. Martin's Road.



1, Eroded Rock surface; 2, Boulder Clay; 3, Eroded Clay Surface; 4, Upper Clay.

DIAGRAM NO. 11.

Clays in George Road.



Showing how the two Clay deposits conform to the slope of the hill once the straight eroded surfaces.

The clay contains the pebbles of the 300 ft. beach and also the boulders that the ice-cap formed from the detritus of the rocks it destroyed. These boulders are always moved from their original positions, but never very far, mostly about half a mile. Their change of position cannot be a consequence of the clay, but is the result of the movement of the ice-cap.

Both clays are of fine structure and contain a relatively large proportion of colloidal clay. The grains of sand are in small proportion and their shapes indicate that the friction they have been subjected to has had a lateral movement rather than a circular. These grains are not weathered but have remained translucent.

The lower clay seems to be free from flint implements, but it contains large numbers of flint pebbles derived, no doubt, from the 300 ft. beach. These pebbles are water-worn and patinated. Flint implements may occur, and one given in "from the clay" is a so-called "Éolith," and I suspect that it was from the lower clay. Only pre-Mousterian implements can be in that deposit where not redistributed.

The clays also contain striated pebbles and rock fragments, but these are all of local rocks, excepting flint pebbles and a few of sandstone; but as these latter are found in all the beaches of the raised-beach period they, doubtless, come from the destroyed 300 ft. beach. These striated stones are few in number, and the striations are, as a rule, slight. I account for this by the limited area of the ice-cap and the short distance the ice travelled. (See *Transactions*, 1912, Note on Glacial Clay.) Compare Mr. Sinel's opinion quoted on pages 375 et seq.

The small proportion of sand contained in the clays will be the result, I think, of the clays having been suspended by water and deposited.

The upper clay is the same as regards its texture, but it contains less colloid clay; but the difference is not a great one, its mode of occurrence and deposition are evidently the same. The important difference is not in the clay but in its contents. There are no boulders or at all events, if any, they are few in number, and have only been found in the cliff sections where they occur by having become detached from the first deposit and accidentally become included in the second—that is the explanation which seems to me to account for those manifestly out of place. The next important difference is that the clay is everywhere filled with flints, either artifacts or chippings and cores. (See same paper.) Several of these are Mousterian, all seem to be taken from rolled pebbles, and by far the greater number are lusted by the friction of the clay. This fact, added to the evidence of the intermediate deposits, not yet described, and place the clay after the Mousterian period. This is not agreed to by Mr. Sinel, see *ante*,

But we have still another deposit of clay which rests in a hollow at Mount Row (including Ville-au-Roi, lower part, and a part of King's Road), which I confess to be at a loss to place in time, not having seen any section giving a deposit either above or below. It differs from the glacial clays in colour, being less yellow, and seems to contain ferruginous staining. It has the peculiarity of possessing an unusual modification in that it breaks up, when thrown out of the excavation, into pentiform blocks each about two inches in diameter. The horizontal section has the appearance of a honey-comb. This, no doubt, is the result of pressure acting uniformly on all sides. The deposit is old, for these blocks retain their shape when removed, and although soft *in situ* they harden in the air without flattening. One piece may be seen in the Museum. The plastic clays I have been describing would not set in the same way. This clay may be unconnected with the glacial clays, but I must leave this an open question for want of the necessary exposures.

NOTE.—While this paper was still in the hands of printer a paleolithic implement of Chellean culture was found in this deposit by Mr. Henry, of Mount Row.

There is still another clay which is of great use in assisting in fixing the limits of the points of submergence, for it is the product of the decomposition of close-grained diorite rocks, *under water*. The process of decomposition may be seen in our bays, where the diorite veins start as hard rock at the top of the bay and softens as it reaches the half tide level, and at low water may be taken up as tenaceous blue clay. I have found this at practically all levels, not always easily found, for the external surfaces have become yellow where freely exposed, owing to the oxidation of the iron. This deposit is equivalent to sea-washed rock outcrops in tracing sea levels. This kind of clay is rarely distributed and may be taken as being in the position of the veins from which it was formed. When distributed it comes under the oxidising action of the air and soon becomes yellow, therefore indistinguishable from other clays.

The two deposits of glacial clay are to be found in the "Head" which is further built up by them. In places they are distinct and fairly unmixed with redistributed material, but on steep cliffs the loose material has fallen on the deposits when soft and partly suspended by the water over it, with the result that on the cliffs there are more angular stones in the clay part of the "Head" than on the inland plateau.

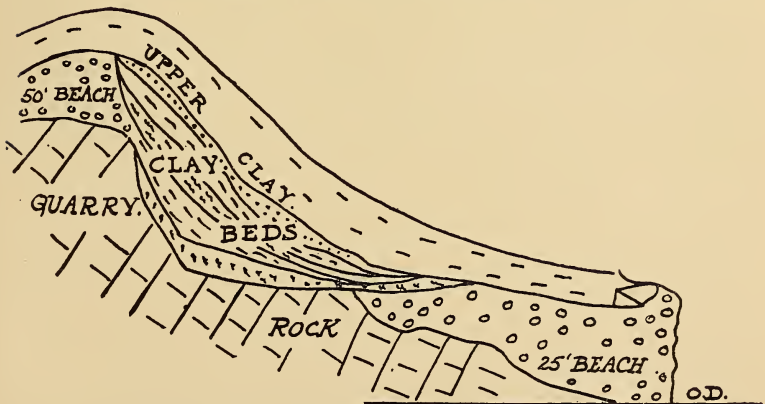
It is now necessary to try to give a meaning to these deposits. The clays are strictly of local origin as are the component parts of the "Head." They are the result of the decomposition of the metamorphic rocks and rested on the planed surfaces of the rocks while the ice was on the island. As the ice became supported by water during the pre-Mousterian submergence the clay, then enormously thicker than now, came under the action of tidal and wave motion and was suspended and distributed. The two clays cannot, as far as the evidence goes, be separated as regards cause, for both show that they rest on planed surfaces.

The clays have suffered enormous erosion and this is very much more in evidence in the low land of the Vale than on the higher parts of the island. There are places where the lower clay has been completely removed, but the place where the remnants remain show that it was originally spread to a great thickness over the whole island. A peculiar mound existed at Hougue Fouque where the clay, whether the upper or lower I do not know, stood up abruptly on the land to a height of 12 to 14 feet. This was levelled before I began to study these deposits, so that I can only use the fact to show how high the clays stood.

That there were two separate deposits generally, not only in the islands, can be shown by reference to several authors; but I need not press the point for they can be seen here at any time.

DIAGRAM No. 12.

Showing upper Clay over the 50ft. beach.



The details of the beds are shown in Diagram No. 10.

That both of these deposits and all intermediate sands, &c., should have been eroded away from the old raised beaches (excepting a few deposits as at Miellette, see section, Diagram No. 13) is a strange fact, but there remains enough hardened clay in crevices to show that they were deposited.

At L'Islet there have been found implements resting on the beaches showing that they are there because the clay contained them, and these are of the earliest Palæolithic type. (See Museum exhibits.)

That the upper clay was laid down over the 50 ft. beach is demonstrated by the Miellette section, as stated above, but that deposit was not eroded off the top of the beach. (See Diagrams 12 and 13.)

To sum up: we have now before us the evidence of the "Head"; of the ice-worn rocks and of the glacial clays; all pointing to two separate glacial ice-caps and submergences. When I began the study of the superficial deposits, some thirty years ago, I saw plainly the glacial conditions and the submergence I did not expect to find them duplicated, and I was very slow to admit the fact, and therefore, can hardly blame the Society for the unwillingness to admit even the one. The idea of the island being altogether outside the area of glacial action being so strongly established had become fixed. The discussions which took place over the deposits of the Vrangue Brickfield show how slow we were in reading the evidences so plainly set before our eyes.

Up to now we, therefore, have it established that we show evidences of three separate submergences, two glacial periods and intermediate periods of sea erosion.

Those of our members who have read the excellent report of Dr. R. R. Marett on the "Head" on the islet of La Motte in Jersey will, I think, see a possible explanation of the facts which puzzled Sir J. Prestwich, and be able to trace the period of dry frost as the agent in the formation of the layer of large detached stones found at the base of the "Head" and their altered positions.

That the clays are of marine origin we are daily receiving confirmation from the observations and deductions of the geologists now working over the South of England, where a short time ago no glacial depression was formulated. French authors are also giving detail which gives to glacial times depressions of the land far exceeding the extent believed possible only a short time ago.

To refer to one paper, "The Gravels of East Anglia," by T. McKenny Hughes, M.A., F.R.S. In this monograph

the author is in favour of the view that the boulder clays and the associated gravels result from the action of floating ice.

This view is well supported by the evidence which we have here, for the deposits of clay, as already said, are best described by an ice-cap lifted, but not removed, by a sea-level approximately at the level of the top of the island.

THE EVIDENCE OF SUBMERGENCE.

I think it will be justifiable for me to produce both local and collateral evidence of the submergence, for it is a point which has and will be strongly debated.

If we find that there are reliable authorities who hold that belief for the south of England, and we may, I think, take it that their conclusions also apply to the islands, for it is inconceivable that the submergence of the south of England could have occurred without the islands being involved.

Dr. Nils Olof Holst, in a paper on "The Ice Age in England," in discussing the brick earth or what we here speak of as the Upper Clay, says "The deposits from the two stages of depression, the pre-glacial or raised beach stage and the glacial stage (this author only formulates one glacial period, A.C.) demand special attention. After discussing the nature of the "brick earth," which agrees with our upper deposit, our author describes a depression of the land which was filled with water. "This loam contains no fossils. If this basin had been filled with sea water this would be quite impossible. Almost equally impossible would it be if it contained fresh water. There remains, therefore, no other possibility than that the water was glacial, coming from the inland ice (of the continent) and the tundras, that the basin was closed in the north by inland ice and in the south by an elevation of the sea-floor from Finisterre north-westwards."

However caused we have here the opinion of one who has carefully reviewed the whole evidence that at least two submergences have occurred.

Prestwich also indicates two submergences, for he describes (op. cit.) a pre-glacial series of beaches to a height of nearly 200 feet (see *ante*) and also a submergence causing the drift of post-Mousterian times. I think, however, that the "Head" described as proof of the post-Mousterian submergence is here a composite one including the deposits of a pre-Mousterian submergence.

To account for the different deposits, Prestwich, instead of placing them in different submergences, formulates one only and a succession of rapid thrusts of the land upwards out

of the water, thus producing a series of deposits formed by the washing of débris from high to lower levels. This theory is not borne out here, but the deposits he describes can be accounted for if two submergences, pre and post-Mousterian, are admitted.

We may, I think, take it that at least two submergences have occurred and that a third, although not proved, may reasonably be assumed.

Several of the Continental writers also adopt the view that the evidence of a post-Mousterian depression is proved by the deposits of the upper clay (brick earth); we may therefore consider that our evidence of a pre-glacial and a post-Mousterian submergence is confirmatory.

As regards the pre-Mousterian submergence which I have formulated there is more room to doubt, for the evidence of the deposition of the upper part of the boulder-clay on which it rests may have been accomplished by means of water flowing from the melting ice. There is, however, this against it: the deposits recognisable as such are stratified, as at Route Isabelle, whilst the upper part of the boulder-clay is not.

I prefer to leave this as undecided, but I think it quite possible that evidence may be forthcoming to sustain my view.

Stage 4.

THE MOUSTERIAN PERIOD.

Although I have considered the two deposits of clays in one part of this paper, it by no means follows that they were deposited at the same time. All I wished to convey was that the clays were both of the same character and had the same causes, but I was particular in saying that they each rested on eroded surfaces, and I now wish to prove that a period of time of great length must have separated them.

The first deposit gave us a boulder-clay with no Mousterian implements, the second has yielded them in abundance. It must be confessed that we were slow to admit that the implements were Mousterian, but after the proof of Mousterian man in Jersey we began to reform seriously our opinions and some fortunate finds of Mousterian flints, identical with the implements found in the Jersey caves, cast aside all doubt, and now boldly assert that Guernsey also was the home of this peculiar race, intermediate between two glaciations, and this fact admitted gives our glaciations their places in time.

Unfortunately, more from want of funds than want of interest, our caves have not been worked with a view of their contents establishing the facts.

The Jersey caves that have been occupied help us in fixing one or two facts of the intermediate period, and we have some evidence which is of a different nature and leads to conclusions not indicated by the Jersey evidence.

These I shall attempt, with fear and trembling, to put before you, but I am quite willing to admit that the facts of this period are very sparse and meagre as far as Guernsey is concerned.

The Jersey caves that have been occupied are not those of or near the present sea level, but are at an elevation of 50 or 60 feet. That I take it is an indication of a sea level not far from the base of the caves. If so, the sea had again been arrested at or about the 50 feet "point of stability." It is important to fix this, for it is the first indication that we have locally that the islands ever rose out of the pre-Mousterian submergence. This gives us a starting-place on which to build up our inter-glacial period. If the statement quoted by Dr. Marett (*Pre. Hist. Man*, fol. 205) holds then we know that Comment's lower Mousterian man was in Jersey owing, no doubt, to a land connection, before the sea had reached a lower level than that represented by the caves.

In Guernsey the Mousterian implements are found in the upper clay, and this points to an occupation when the island was again united to the mainland. (See Photo No. 19.)

I have it on the authority of Mr. Le Vallée, our leading well sinker, whom I have found to be accurate, that the two clays were divided by a 2-foot deposit of cockle shells, at the town end of the Canichers, 35 feet below the surface of the soil.

As regards Mousterian man, therefore, we may conclude that he followed the ice as it disappeared to the north and reached Jersey as the connecting land was above water.

Guernsey would be reached only when the English Channel was dry, hence if our caves were occupied, of which we have no evidence so far, they would very likely be the lower level caves.

This would also point to the Guernsey Moustertians being a later section of this culture.

As regards the geological evidence of the inter-glacial period under discussion it is extremely simple, for it consists entirely of sands and loess which are found between the clays.

The Jersey cave "La Cotte à la Chèvre, St. Ouen" shows a deposit of yellow clay above the Mousterian layer. (Marett, fol. 464.)

In Guernsey, the sands which contain shells (*Transactions*, 1912, fol. 380) have given us no means of judging accurately of their true horizon. All that we can feel sure of is that these shell deposits are between the clays.

These shell sands may be seen at Fermain Bay and at St. Martin's point. The deposits will be found to be quite horizontal and of some thickness. They form part of the "Head" but differ from the other components in that they do not follow the curve of the cliff—that is, they were deposited on a land surface which does not exist now. This is also true of the old land surface shown between the clays at Belcroute Bay, Jersey. That land surface may have been of small extent and must have been supported on the sea side where there is now no supporting margin. The shells are those that would be found on the margins of fresh water ponds. (See *Transactions*, 1912, fol. 380.)

As the lower clay and other components of the "Head" lie below them, the inference is that the land was temporarily extended by sand dunes which covered the lower "Head" and afforded temporary support to the formation of which they formed a part. Thus while the beds abutted the cliff they were practically outside it.

After their deposition the upper clay was deposited. These beds are in layers and the solution of the shells in one layer has provided cementing material for the next layer where the sand, with an admixture of clay which has permeated the sands, has produced the concretions called "Paunchen" or "Puppchen." If these beds are the local representatives of the continental "Loess" they give us a land surface on this side of our island of which there is now no other indication.

In Jersey, as stated by Mr. Sinel (*op. cit.*), these sands and clays exist on the islet of La Motte where also they form the same concretions.

Besides these sands we have gravel deposits the result of rains or water from the melting of snows, which I put down to the period we are now discussing; but if they are due to the latter cause they must have preceded the advent of man who followed the ice margin. The gravels are to be found at several bay sections, at Pollet Street (not now visible) and under the new road at the Town Church. We also have a land surface between the clays in the Jersey Belcroute cliff section which also yields shells. It is, I think, different from the La Motte deposit in that it has not the same Loess character.

I shall now describe a series of deposits to be found in the quarry at Miellette Bay, which fairly represents the type of evidence we have to depend on for the facts of the interglacial period. This evidence is at once strong and weak. It is strong in as much as the sands and gravels are well placed under the upper clay, and it is weak in as much as the lower clay is uncertain. It may therefore be said to be simply passage beds over the 25 feet beach; in fact, but for the fortunate find made by Colonel de Guérin, to whom I was showing the beds, of pieces of charcoal in the central beds, I would have felt even more than I now do that the Mousterian period was very weakly represented. The presence of charcoal which I have since abundantly confirmed and extended to other sections gives me great confidence in the placing of the beds in question.

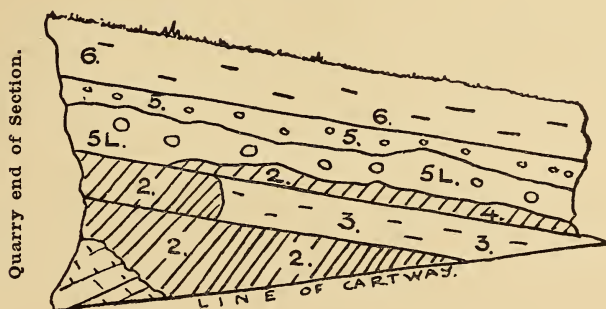
The section is represented in diagram No. 13.

The beds consist of gravels, sands, rubble bands and a deposit of the upper clay. Taking these in order from the bottom upwards, they are as follows:—

1.—The 25 feet beach. To see this the back or sea-side of the quarry must be visited.

DIAGRAM NO. 13.
Miellette Bay Section.

1, is not shown in this section but is in the Diagram; 2, Red Gravel; 3, Redistributed lower Clay; 4, Red Gravel, same as 2; 5, Charcoal bearing rubble band, two layers; 6, A very even band of Clay. A good example of the deposit.



2, Lower, 3ft. 6in.; 2, Middle, 1ft. 6in.; 2, Upper, 9in.; 3, Clay, 1ft.; 5L, Lower, 1ft. 6in.; 5, Upper, 9in.; 6, Clay, 3ft.

2.—A compact hardened ruddy-coloured sand. The surfaces of the grains are coated with iron oxide. This layer is evidently a washed-down surface sand (coarse) from higher levels. This sand has been eroded before the next layer was

added, for a part is thicker than the remainder, the deposit having been cut down and the missing thickness filled in with the next bed which does not cover the whole layer but only the removed portion.

3.—A layer of sandy clay, also red, but less so than No. 2, filling up the gap in the preceding layer, the two showing a line of erosion smoothing them to a common height.

No. 4.—Is an irregular deposit of the same red sand as No. 1. Its upper surface is not so straight a line as the lower ones, pointing to a weathering rather than a powerful eroding agency.

No. 5.—Is a land surface consisting of fallen rubble and pluvialite gravel. This, I think, is identical with the "old land surface" of the Jersey Belcroute cliff section. It was in this section that the charcoal was found. I consider it to be the result of rain wash, copious I admit, with the débris of the top of the "Hougue" brought down. The charcoal is in pieces of the size of a pea and smaller. These pieces are evidently wind-carried and have fallen on the accumulation. In one place of this layer there is less of the stone rubble and more of the red sand, but there is so much fine charcoal dust that the redness of the sand is masked and the layer, only one inch thick, is blackened. Here we have a layer of great importance, for the deposit being under the upper clay and showing the presence of man by the charcoal, must be Mousterian, and thus gives a definite horizon to the whole. The upper portion of the band contains the charcoal and few stones, the lower contains the larger stones and less fine material and clay. All the stones of this layer are angular.

I have hesitated in placing the two parts of this band together, but I think they show as parts of the same deposits varying only by extension of the time occupied in its formation.

No. 6.—In this layer we have an example of the Upper Clay. Here it is only three feet thick, but it is remarkably regular in its thickness and in the lines which mark its limits. There are no stones in it; there are no pebbles, no flint implements: no stratification. The deposit is uniform in every sense. The colour is a bright yellow and does not vary. The particles are amorphous. It is indurated but pulverises easily, and beaten down makes a hard and solid floor. The deposit seems to have been formed from suspended clay differing from the same formation already described under "The Clays." in that all the contents of the upland deposit were precipitated before the clay reached the position we now see it in.

Although not seen in this section it can be traced passing over the deposit of the 50 ft. beach which is resting on the top of the higher land, and I show it in the diagram. There is an important point which I give here in place of in Part I. of the 1st Stage. It is that the doubts some have expressed of the succession of the two lower beaches is here satisfied, for the glacial clay rests three feet thick on the top of the beach, therefore the beach cannot be claimed as having been laid down since the glacial epoch.*

How far this applies to the Jersey 40 feet beach described by Dr. Marett (see "Pleistocene Man in Jersey," fol. 478), where he says "Submergence indicated by the raised beach existing above the peaty layers with Neolithic remains at Green Island," . . . "corresponds with a 40 feet beach at Mont Ube." "Mr. Clement Reid assigns this last subsidence to late Neolithic times." Our evidence of that subsidence is very plain and of the same nature as that of Green Island, but we have no raised beach. I shall show in a future stage that the late Neolithic subsidence produced no raised beaches, it was of too short a duration, but it did redistribute the marine sands. I therefore would assign the Mount Ube beach to the raised beach period and the Green Island sands to the last subsidence.

In this case the presence or absence of late glacial clays on or near Mont Ube would assist in the differentiation.

We have another type of evidence bearing on the climate of the inter-glacial period which belongs to a dry and elevated land in contradistinction to the sands and gravels which show torrents and partial submergence, in the condition of the remnants of the upper clay at L'Anresse. It will be seen that the clay at Miellette, although eroded on its surface is not cut into, and was evidently covered by later deposits at the time of the L'Anresse erosion I now describe.

That there was a level deposit under the accumulated blown sand dunes I have satisfied myself, but it is also plain that it has been exposed to dry heat, for it is cracked and divided into separate longitudinal strips. Some of the cracks have been enlarged by water streams, with the result that every here and there we find detached masses, more or less

* The succession of the two lower beaches is also made clear by the colour of the flint pebbles they contain.

The 25 feet beach-flints are patinated white, but those of the 50 feet beach are in the top layers iron stained and therefore a ruddy brown. The staining of the flint pebbles of the 50 feet beach is the result of the super-imposition of the upper clay which, resting in places directly on the beach, has permeated it and thus stained the flints.

This did not occur in the 25 feet beach because of its being covered at the time of the deposition of the lower clay.

large, among the sand apparently without any connection with the main deposit. When the time of dry heat passed away it was evidently followed by a time of heavy rains which produced streams which ploughed through the splits in the clay, thus finding their way to the sea. Then another dry interval filled the water courses with sand, and there are indications that both the clay and the sand (which is much older than the sand of the dunes) suffered erosion. The detail requires study before it can be read.

As the evidence of the inter-glacial period is so meagre and indecisive, I shall quote some of the leading authors to enable my readers to fit in the detail I have given.

Geikie in his "Antiquity of Man," fol. 262, says:—"The climate being somewhat extreme the continental tracks were doubtless subject to dust storms in summer and blizzards in winter. But with the continued retreat of the Alpine snow fields steppe conditions eventually passed away. The climate now steadily became more humid, forests extending in all directions until they covered vast areas. The climate was probably more genial than at present."

This quotation will suffice to prove that great changes were in progress during the early part of the inter-glacial period, to which the quotation refers.

Dr. Nils Olof Holst (Geo. Mag. Vol. II., fol. 504) writes:—"A rapid rise of the land—the Mousterian elevation—introduced a great rise (of temperature) . . . none the less (fol. 506) the ice-age persisted right through the Mousterian times; it was not until after its close that the true post-glacial time began." I have not space enough to increase the quotations, but enough has been said to show that the changes of climate were severe, not only on account of the nearness of the ice in the north but because of the great difference in the temperature of the winters and summers.

Subsequent erosion has sadly weakened the evidences of the Mousterian occupation in Guernsey, and I know that they are not very convincing to those who have not studied the detail step by step. That I think I can lay claim to have done, and I therefore submit to the Society my conclusions with a certain amount of confidence.

NOTE:—Since this paper was written it has come to my knowledge that a deposit of peat exists at the top of the Hubits Valley, on the property of Mr. Hilary Mauger.

This gentleman informed me that a few feet below the surface he came on some peat forming a deposit of considerable

thickness, the bottom of which he did not reach. He describes the peat to be yellow in colour and to have but little recognisable vegetable structure, but still visibly a peat. This deposit was associated with sea gravel which (to use his own words) "exactly resembled that of Fermain Bay." The deposit I have not seen, but I have no doubt that it is correctly described by Mr. Manger.

This find has a distinct bearing on the deductions I have drawn from other data. The sea gravel is a sea margin, and the peat is evidently the remains of a marsh on the border of the sea margin. The yellow colour, I believe, is due to the infiltration of the yellow clay which has been deposited over it.

The yellow clay determines the period, and we may therefore assign the deposit to Mousterian times and thus obtain confirmation of the deposit of the clay by water and of the post-Mousterian submergence.

Stage 5.

THE POST-GLACIAL ELEVATION.

From the time of the submergence which laid down the upper glacial clay we have but one subsidence recorded on our shores. That one belongs to a very recent period and must be described as the last geological event of any importance, therefore beyond this mention I leave it to a future chapter of this paper.

The land is now permanently above the sea-level, and as the rise can only be proved by negative evidence it will be in order for me to state the accepted facts which I cannot either support nor contradict from geological data. There are, however, means of judging of the application of the accepted facts by their general agreement with our negative evidence.

It is believed that the land rose to a height of at least 600 feet above the present sea-level, and in doing so caused the channel to become dry land. Sea erosion then set in, and the rivers which flowed down the channel and into the main river (Hurd Deep) were gradually deepened and their beds were cut to lower levels. After a long time a change set in and the land sank again, but only to its present level or near to it.

Of all this we have only the evidence of our sunken forests which grew at a level now covered by the sea, and grew for a time sufficiently long to form peat beds 12 to 14 feet thick as occur in all the islands.

These beds offer evidences of changes in the climate as they vary in their different layers. The lower layers are of forest trees, but as the beds accumulate it is found that the plants alter in type, affording evidence of warmer and colder, drier and wetter climates. I feel that it would hardly be necessary for my object to follow all these minor changes in this paper, because there is nothing strictly local and the details can be found in many publications such as "Submerged Forests," by Clement Reid (Cambridge University Press). Had I anything in this connection new and purely local I would not pass over this period with such brevity, but I have not.

There are two points I must speak of, the erosion of the land connections and the lower land between the islands. I have already said that sea erosion is only responsible for a deepening of the already low connecting pieces which were dry at the beginning at this stage; that I think should emphasize, for we too often speak of the separation of the islands from the mainland as if the sea erosion had done all the work. It is not so. I will call to your minds the statement I made earlier in the paper that sea erosion is only active when the sea-level is rising.

While the water was gaining on the lower levels of the sinking land, great changes were taking place in the relative land and sea areas. At first only the margins of the island groups came under the action of the eroding sea. Thus Jersey was being eaten away on its west and south sides while maintaining its land connection with the mainland. At this stage the land connection around Alderney included Alderney itself, the banks to the south of the Casquets, Burhou and all the reefs around and between.

While these groups were still connected with the mainland, the Guernsey-Sark group detached itself from the land, and for a relatively long period these stood out as a large area of land divided from the other portions of the coast to the north, south and east. I have purposely suppressed much that must have happened during the interval between the rise of the land of, or over 600 feet, because I have no local evidence to offer, and my readers can make the necessary deductions as well as I can. It will be sufficient to say that the channel was at times the scene of a fertile valley, at others a arid desert, according to the absence or nearness of ice.

Then as the sea gained ground, not so much by erosion as by a rise of sea-level, all this became altered and the evidences of changes and of life passed away and became buried under the sea. One thing seems certain, and that is

that only the low lands now submerged were used by the animals of that period or we would find their remains in the deposits of the island. Such is not the case for our fauna and even our flora are later arrivals. Not only is this so but the approximate date of their advent can be fixed. I need only remind you, in this connection, of Mr. J. Sinel's lecture in this institution, wherein he showed the order of the arrival of various animals and how some reached Guernsey on the advance of a genial climate just before the intervening valleys were inundated, and how some others, making their way westward too late, reached Jersey and Alderney; but some of the still later arrivals got to Alderney and failed to reach Jersey and Guernsey. I understand that Mr. Attenborough, a Jersey worker in botany, has corroborated Mr. Sinel's conclusions from data obtained from the flora alone. I am sorry that my plan for this paper obliges me to be content with this mere mention, and to use these facts as confirmatory of the statement deduced from geological data that the order of the separation was as described.

We now go one step further. The Guernsey group became disconnected; the valley between Herm and Sark became inundated and remained so for a very long while when Herm was still attached to Guernsey. The land connecting these was linked up by rock-protected islets now reduced to rock platforms (flat rocks) and reefs. These kept the connection up for so long that portions have been separated by the continued rise of the sea-level during historical times.

There is evidence, therefore, that the changes culminating in the separate islands, as we know them, occupied the whole period covered by the gradual rising of the sea-level and the progressive inundation of the low Channel and inter-insular lands.

The question naturally arises—what geological evidence does the island offer to support the assertion? There is no positive evidence but there is abundance of negative.

Submergences during that period have not occurred. Ice has not marked its presence. The fauna and flora now on the islands are comparatively recent introductions or survivals of the forest period. And not least important is the absence of any of the indications of the human cultures which followed the second boulder clay in England and on the Continent. What then prevented the animals which had roamed the Channel bottom from establishing themselves. The fact stands out that before the final advance of the sea there must

have been a dry steppe interval sufficiently severe as to kill off plant life and that therefore the roaming animals departed for the south. In other words the cause of this state of things is to be found not in glacial conditions but in the opposite. Hot and dry desert conditions with sand storms* made the Channel and islands unable to support vegetable and animal life, and when ultimately the conditions changed the sea had encroached enough to prevent the return of life to the islands.

Thus is it reasonable to suppose that the later paleolithic men failed to reach our islands. Alderney and Jersey have provided us with an abundance of Magdalenian implements. These are thickly patinated owing to their exposure to the sun's rays while resting on the sand surface. We know therefore that conditions favourable to life returned before or during the Magdalenian period, but too late for that culture to be represented here.

It is reasonable to suppose that while this elevated period was passing the island was losing height by the degradation of the high lands owing to the action of wind and rains (before and after the arid interval), and the upper portion of the "Head," in places, shows indistinctly some such additions, but the upper portions of the "Head" itself was lowered, hence the evidence to be derived from it is by no means satisfactory.

At the close of the period under review the climate became warm and genial, the forest growth became abundant on all the margins of the land not yet covered by water, and the Neolithic Culture began to take its place on our shores and to write its history on our higher land.

Stage 6.

THE GEOLOGY OF THE NEOLITHIC PERIOD.

I am deliberately passing by all reference to the Neolithic culture as such, and will only speak of the implements and monuments as they affect my geological conclusions.

The positions of the dolmens and their conditions help in determining the geological changes.

First we know that these men occupied the now sunken forests, for their implements have been found in fair abundance in the peat; therefore we may safely conclude that although we have no positive evidence to that effect there had been a recovery from the sea which enabled the men and

* A remnant of these sands is to be seen overlying the upper clay on the flat land to the west of the Ramée Road, as well as in other positions at about the same elevation on the west side of the island.

smaller animals to reach us. That lowering of the sea-level is made necessary by the fact that the land connections had been severed or the later men of the Paleolithic stage would have reached here, but they reached Alderney and Jersey only.

An oscillation is therefore indicated, but not proved by positive evidence other than the renewed forest growth and the presence of the Neolithic culture. Such rise must have been ample, probably at least 100 feet, and the evidences are to be found not on land but at the sea bottom. There is one uncertain element, however, and that is the depth of the deeper channels among the islands. We must allow for the possible land connections at low tides. Be that as it may, and I see no object in going beyond the ascertained facts. The Neolithic men did come over, the forests did grow to a great distance from our present shores after the separation which successfully cut off the later Paleolithic men.

I therefore formulate a retirement of the sea just before the Neolithic period began. The sea began to rise again, but not until the end of the Neolithic stage and therefore during historic times. This rise destroyed the forests, inundated the lower tracks (where dolmens had been built) and gradually came up to its present level.

Now we arrive at a very recent change of great interest and referred to already in the quotation from Dr. Marett's paper (see *ante*). The dolmens, when built, were no doubt placed on land well above the reach of the sea, and these afford very strong evidence of the lower position of the sea-level during the greater part of the occupation of the island by this culture. More, it may be presumed that the true dolmen builders ceased to occupy the island, for when the forest was destroyed it is difficult to conceive that the island would provide food for any but a very small tribe; we may infer that the land connection lasted as long as the occupation. This does not exclude the possibility of temporary visits by means of boats which we know were in use by Neolithic men.

We may take it, then, that the pre-Neolithic elevation brought both the forests and the Neolithic men to our shores, the one being dependent on the other. It seems to me that the obverse must also be true—when the submergence of the forests deprived these men of their hunting grounds they retired. Jersey probably received these men before we did and retained them longer.

The sea gained on our shores and whatever dolmens existed on low levels, as for instance the Herm submerged dolmens came under the action of the waves and were partly

destroyed. The sea rise continued and the present level was passed and a subsidence, very moderate in extent, followed.

Let me now dwell on the evidences of this subsidence, for as it is an event near our own days it has an added interest.

Years ago I detected and registered the fact that there were deposits of a later date than those caused by the forest subsidence. These consisted of marine sands chiefly, although a few deposits of blue clay seemed to fall into line with them. I followed them and found that the line of the margin was one about 10 to 12 feet above anything that could be attributed to the present sea level. But knowing that such a thing as extraordinary high tides could occur, and that our storm beaches were in fact some feet above the newly detected sands, I felt that caution had to be exercised. Then the dolmen at L'Islet was discovered. It rested on the 25 foot beach. As soon as I saw that the dolmen had been emptied and refilled with a washed-in and layered deposit of sand and clay derived from the very mound on which it rested, I knew what had happened. The Braye du Valle, I saw plainly, when deeper than the present level made it by some 12 feet, would have contained sufficient water depth to have given confused waves under the action of storms to have reached the dolmen and to have emptied it, and to have redistributed the sands of the hougue and to have refilled it or permitted it to be refilled by rain wash.

The supposed rise fitted in with the marine sands on the low lands. I nevertheless needed assurance that I was right and took two or three of our members to positions where these sands rested, but I doubt if these visits were quite convincing, so I then sought for evidence of other observers. I came on a paper by Godwin-Austen, which I had used in reference to changes of level on the English side of the channel when lecturing on the earlier submergences, but owing no doubt to preoccupation when consulting the paper I failed to attach importance to his statement of a subsidence in late times. More than this, our author had actually noted the very facts I had been so diffident about when visiting the island.

Godwin-Austen says: "In St. Sampson's parish, Guernsey, the upper surface of the granite is covered by a considerable thickness of granitic sand containing large angular fragments of granite (our frost-riven detached blocks), above this is a pure sea sand and pebbles." If I had read this with my mind on the look out for other facts, I certainly missed its reference to the problem presented by the marine elevated sands and the

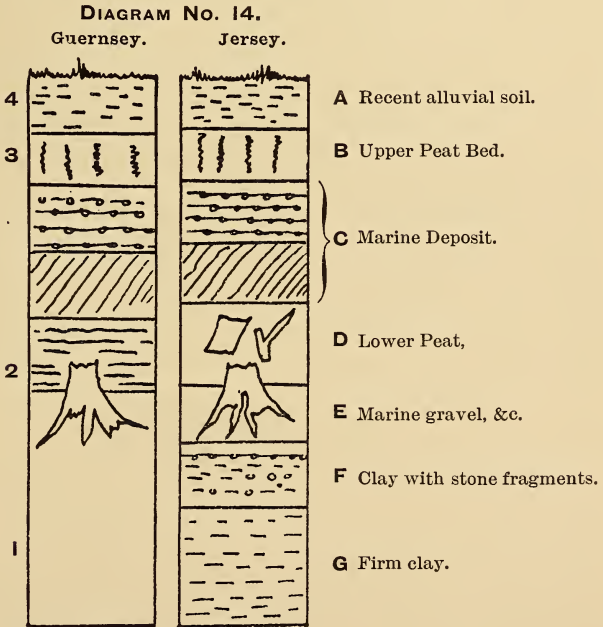
dolmen. I further found that this author describes sands in Cornwall at the same height above the sea and plainly speaks of the last elevation of land occurring about 3,500 to 4,000 years ago: the timing being possible by the associated mine débris of the early workers of the tin mines.

After thus establishing the fact of the subsidence and bringing the facts before Mr. Sinel, he at once said that the Jersey Tunnel street section showed the same fact.

I now have to show that the full confirmation comes to us from the newly opened peat deposit at Vazon. Here the peat of the forest is 12 to 13 feet thick, and over the peat is a deposit of sea sand 3 feet in thickness (See diagram No. 9). That deposit, had I known it at first, would have given me the confidence I lacked, for it is in turn covered by the peat of the historical marsh.

THE PEAT DEPOSITS.

As the peat may be supposed to cover most if not all the Neolithic period as far as Guernsey is concerned, it will be in order for me to give a short description of the extent and characteristics of the deposit.



I give two sections showing the Vazon peat and the Jersey Tunnel section (from Mr. Sinel's "Prehistoric Times and Men," p. 40) for comparison.

It will be seen that the section divides into four different parts:—

1.—Is a clay deposit which I suppose to be the upper glacial clay, but I have only seen the surface. This also occurs in the Jersey section, but the section is carried lower and shows two separate layers.

2.—Over the above (in Jersey an intervening layer of marine sand is shown which is not present here as far as at present known) is a forest bed consisting of forest soil with large trees with their roots still *in situ*, but with the trunks in a prone condition. This is also found in Jersey. Here we measure the depth as from 3 to 6 feet. The Jersey tree peat is not measured. No doubt these are the exact equivalents. The top of the deposit consists of Moss peat and Marsh peats alternating, the total depth being about 12 feet as against Jersey's 5 to 14 feet.

3.—Here we have a deposit of sea sand which, although differing in constitution owing to difference of material acted on by the sea, is undoubtedly the same in both islands. In this island the deposit is all sand, that is at Vazon, and is 3 feet deep; on the Marais the sands are of the same character, but in Jersey there is more stone and a larger proportion of shells. This is the last deposit above the present beach level. This is also found at La Motte or Green Island, in Jersey, as I shall show presently.

4.—Now comes an upper peat bed, visible in both sections, and in Guernsey consisting of marsh plants only. This differentiates in the two sections, for in Jersey the higher land was near enough to give dry land *débris*, whereas here the marsh remained either a marsh or a pond for a long time. The ponds existing along this coast were drained in quite recent times.

The peat beds give us some idea of the facts of the Neolithic times from a geological point of view.

The first thing to attract our attention is the arrest of the growth of forest trees quite early in the period, for we find that the trees are all rooted in the lower layer of sandy clay, and when these had grown to full size there was no further succession, or none which we can distinguish. The forest trees were then followed by undergrowth and plants of a moist atmosphere, and ultimately by a still moist layer of

nearly pure moss. This has now become quite gelatinous. The next and all the upper layers show that marsh and bog plants had their turn and were replaced by plants of more vigorous structure with fibrous, and in some cases, woody roots. Then the sea broke in and the deposit was buried under the latest sand deposit. It is therefore fairly certain that the lower parts of the deposits represent the portions of the forest on which men could roam and therefore the level at which most of their implements can be found.

As regards the upper peat bed at Vazon, all I need say is that it probably is post-Neolithic all through.

At La Motte, in Jersey, there is a deposit of the latest date which is the equivalent of the marine layer of Tunnel Street, which is between the peat deposits and of our 3 feet of sand, in the same position.

Dr. Marett says of "The marine silt with littoral shells that occurs between the two beds of peat in the Tunnel Street section must be treated as due to the same cause operating on a lower plane. Mr. Clement Reid assigns this last subsidence to late Neolithic times and gets a date for it of about 1,500 B.C." It will be seen that this estimate is in accord with Austin's, and we may, I think, adopt it as approximately correct.

The sea-level did not rest at the elevation of about 12 feet above its present height, but fell again to a slightly lower level. As we have now reached historical times it has been found possible to estimate the recent changes of level with some near approach to certainty. Mr. Clement Reid, already quoted above, says in his "Submerged Forests," page 114: "Working backward from the present day, step by step, archæological evidence gives an undoubted period of 2,000 years during which no measurable change of sea-level has taken place in the south of England."

While admitting the broad truth of the above statement, I think the evidence of our own coast shows that the sea-level has been very slowly rising during the period spoken of. My reason for this opinion can be easily given. It is formed on the facts of sea erosion which can be verified. In both islands there is evidence of loss of land on the sea margins which have been cultivated and have formed parts of well-known estates. The remains of the buildings have in some cases been found and their ground plans traced. I will recall to the minds of my readers the statement that sea erosion gains on the land when the sea-level is rising. It follows that these losses are brought about by a rising sea-level be that rise ever

so slow. But on the coasts of Normandy and Brittany the indications are even greater, and I think shows that the apparent steadiness of the level is more due to slowness of rate than actual arrest.

Our archæologists will some day, no doubt, be able to bridge the hiatus between the last geological subsidence and the commencement of Guernsey history. They will probably find traces of Phœnician times, for no doubt we were visited by those bold navigators on their journeys to Cornwall. Of the Romans too we are guiltily in ignorance. Of the inhabitants of post Roman times we also know nothing. Yet, no doubt, these all came to our shores.

Of our great-grandfathers we unfortunately know too much. We know that for the sake of their ease they destroyed all of the Neolithic culture we would value most now. They built their houses and separated their properties with the dolmen stones, and left us the remainder, not because they valued them, but because they were not visible to them at the time.

I have to acknowledge that I have given no date for the sand dunes. That omission is intentional. They are largely mixed up with both pre and post-Neolithic times and require more study before differentiation. I believe that these deposits will later on be made to yield valuable evidence now wanting.

It is worthy of remark, however, that the sand dunes on L'Ancrese are of unequal dates. Some of the sand, as for instance that lying between the clay pockets near "Nid d'Herbe," seem to me to belong to the dry arid period of the Mousterian times or possibly the steppe period of the post-glacial elevation, while some are decidedly pre-Neolithic and old. Some also differ by being later than the dolmens for such dolmens as remain on the Common have been covered (See photo No. 15). This dolmen may be resting on the 25 feet beach for the beach deposit has been moved. Here was found by Mr. F. Lukis a beautiful celt which was probably preserved, by the covering, from the ravages of time. It is still a question whether this dolmen was reached by the last subsidence or not. I think it is probable that the sea did not cover the whole of the Common, but it did parts without doubt.

While referring to the last inundation I may draw attention to the fact that the last remaining portion of the Marais at Bordeaux Harbour has only just been filled in, and I secured a photograph (No. 16) of the last piece of water to disappear.

There still remains one point, which earlier in the paper I promised to speak of. That is the strange connection between the raised beaches and the Neolithic monuments.

That the beaches have been covered by many of the deposits of intermediate times I am quite convinced, still they were not on the beaches during Neolithic times for the graves and dolmens are placed on them. On the 50 feet beach we have found cists at Hougue Noirmont. On the same beach the De Hus dolmen is placed. On the 25 feet beach is the L'Islet dolmen, the two adjoining graves, just discovered, and possibly the two smaller dolmens on the Common. Thus we have the earliest and the latest periods brought together. The only way of accounting for the fact is, that the beaches had been completely denuded of their superimposed deposits and were visible to the dolmen builders who recognised their value as offering safe foundations for their massive erections.

There is one more point bearing on this period. If I read the peat evidence right I think that after the forests had ended their growth—a very long time, to be estimated in hundreds of years—must have elapsed during which our coasts were practically awash as regards the sea level, for the whole of the moss and marsh-plant peat show that there existed a state of insufficient drainage. This was probably due to the sea resting, or slightly rising for a long time, during the period and it should be noticed that this rest was at one of the “points of stability.”

CONCLUSION.

It will be seen that the geological events of the Pleistocene Period consists of a number of elevations and submergences, and that with these changes there have been changes of climate which have rendered the island alternately habitable and uninhabitable.

It may be well to review the supposed causes of these changes. The question arises first, whether the land or the sea rises and falls. I have all through this paper spoken of changes as having been due to alterations in the level of the sea. On the other hand Dr. R. R. Marett writes of the changes of the island of Jersey as changes of land elevation. Of course, we both mean the relative changes of level, but the question is, does the land rise and fall or does the sea do so? I think that before venturing an opinion I should give a quotation or two to show how the question is answered by the writers who have attacked the problem.

Geikie does not help us much, for his wording of changes of level only refers to *relative* changes, for instance, "It is by quiet, hardly perceptible movements, that the relative positions of sea and land are undergoing change at the present time." Lyell also speaks of the relative changes, and I cannot find a passage to quote in which he speaks of anything but the relative changes of level. Holst (op. cit.) on the other hand, I have already quoted as believing that a sea-saw motion occurred between the north and south of the British Isles. This author gives as a reason for this movement—the weight of the ice on the Scotch land. Another writer, M. A. Marriott in "Changes of Climate," says: "The glaciations themselves seem to have caused differential movements in the earth's crust owing to the enormous accumulations of ice over certain areas."

We then have reason to believe that the changes of level were due to the (*a*) weight of ice lowering the land, and (*b*) the enormous quantity of water locked up during the ice bound period. It has been stated, but I am not able to quote the author of the statement, that the ice reached a height of over 4,000 feet over the enlarged arctic regions and that locked-up water represented a fall of sea-level in the Atlantic of nearly 1,000 feet.

We have, therefore, enough ground to go upon to formulate a theory that the raised beaches were the result of the melting of the arctic ice, and that the submergences were the result of the sinking of the land under ice weight.

As this changed there would be a return to the normal elevation, thus justifying my "points of stability."

Dr. Holst is of opinion that there has been but one glacial period (op. cit. fol. 418). If he is right then I am wrong. Geikie formulates no fewer than seven (Antiquity of Man) if he is right I also am right.

There is a way of explaining the difficulty. We may consider the ice in the arctic regions to be there permanently and the arctic circle to move up and down as the world moves around its various axial centres causing warm and cold periods. In this way a warm period follows a cold one and all the phenomena of each is reproduced.

A point of some importance is the fact that we have, as far as my study goes, no evidence of any changes between the rise of land after the deposition of the upper clay and the submergence which buried the forests. We know that the rise occurred because the forests grew, but the interval between the second ice invasion and that of the forest elevation, but

there remains an interval of tens of thousands of years, while the whole of the later-palaeolithic stages were going on elsewhere, that we can see no trace of here.

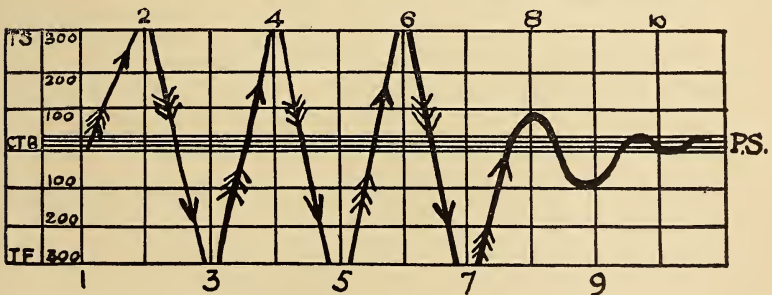
Another point worth dwelling on is the want of evidence of the minor changes of recent times. The surface of the island is not that on which the Neolithic men walked. In few places does that remain. The loss of soil due to cultivation, to rain and weathering, has brought us down to the lower or upper clay, as the case may be, and our deep ploughs do not now turn up the rich dark forest soil that they used to do; there is now stiff yellow clay which is not suitable for any crops but cereals and large roots. The farmers call it "jaune terre."

This may lead to larger finds of implements of the Mousterian stage.

I have prepared a diagram of the movements of sea-level, but it does not show the hiatus I have spoken of, nor can it show the minor oscillations the deposits of which are under the sea.

DIAGRAM NG. 15.

Representing the changes of Sea-Level during the Pleistocene period.



No. 1.—The Raised-Beach period.

No. 2.—The Submergence following No. 1.

No. 3.—The Emergence representing the commencement of the glacial conditions and marked by the frost-riven rocks.

No. 4.—The Submergence due to the weight of ice over the British Isles. Period of maximum glaciation.

Nos. 4 to 6.—The Mousterian Period retirement of first glaciation, a subsequent elevation and approach of the second glaciation.

Nos. 6 to 8.—Hiatus of unknown length covered on the Continent by late Palaeolithic times. Not represented here.

No. 9.—The Submerged Forest Period. Neolithic remains.

No. 10.—Commencement of historical times.

T S.—Total Submergence of the Island.

T E.—Total Emergence of the Island.

P.S.—Points of Stability.

N.B.—Emergences and Submergences 1 to 7, extended above and below the perpendicular extent of the Island, therefore not shown.

It will be noted that the "points of stability" are near the centre of the oscillations and evidently mark the mean position of the sea-level throughout the Pleistocene Period.

The lesson we have to learn, as communities, is that the sea-level is not constant and is now rising.

In our coast defences we should reckon on the increasing encroachment more than we do.

PHOTOGRAPH NO. 1.



PHOTO. : J. LEALE.

The 25ft. beach on the west side of Jethou. Note the large size of the pebbles.

PHOTOGRAPH NO. 2.



.....Head

25ft. Beach

..Platform

PHOTO. : A. COLLENETTE.

Showing the 25ft. Beach under "Head" and Rock Platforms.
The figure points to the pebbles.

PHOTOGRAPH No. 3.



.....He

25ft. beac

..Platfor

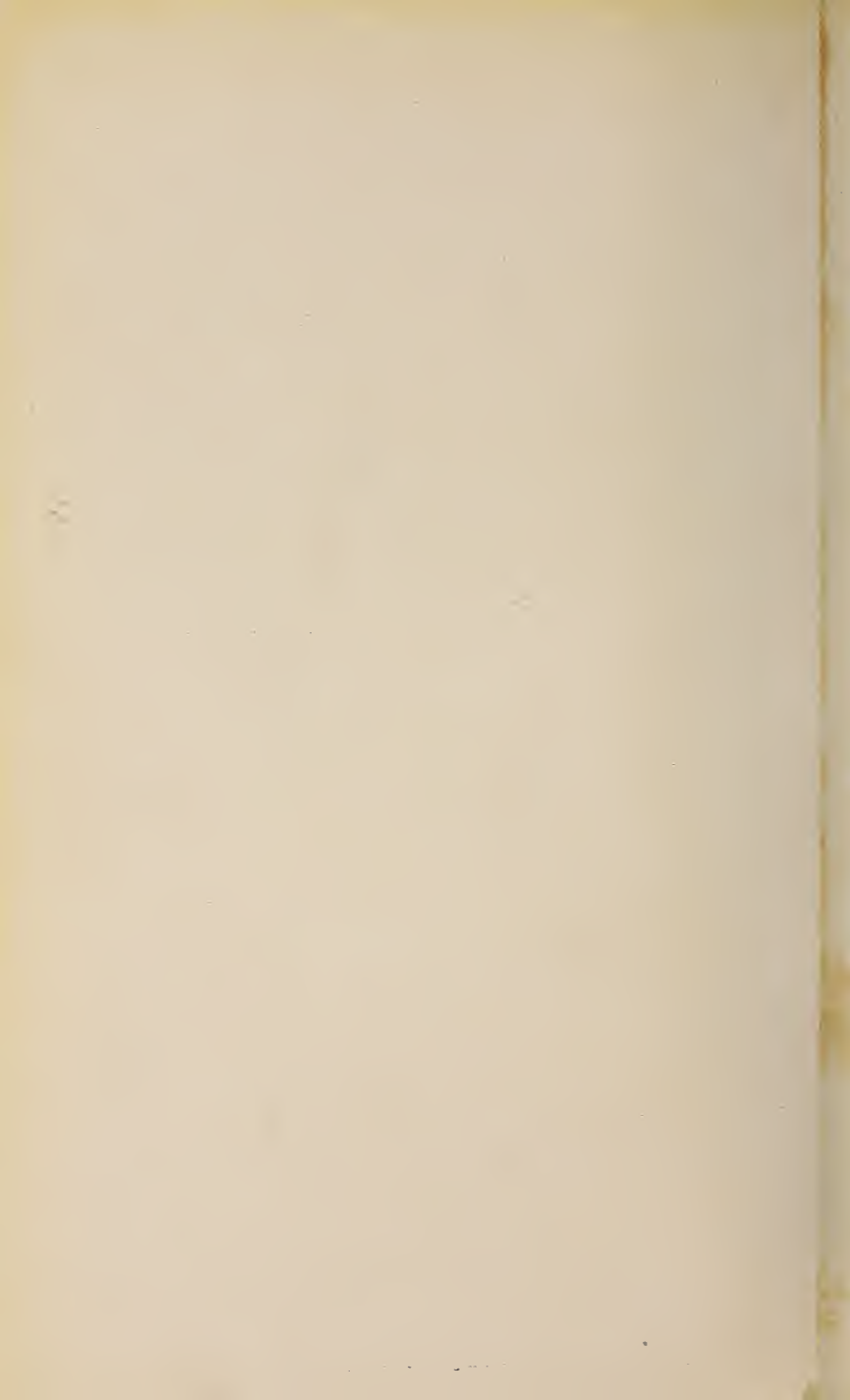
PHOTO. : A. COLLENETTE.

PHOTOGRAPH No. 4.



PHOTO. : A. COLLENETTE.

Showing the 25ft. raised beach at Fort Le Marchant. Pebbles with large angular stones beneath, all now falling on to the present beach.



PHOTOGRAPH No. 5.



PHOTO. : A. COLLENETTE.

Showing the bosses of rock from which the stones have been detached.

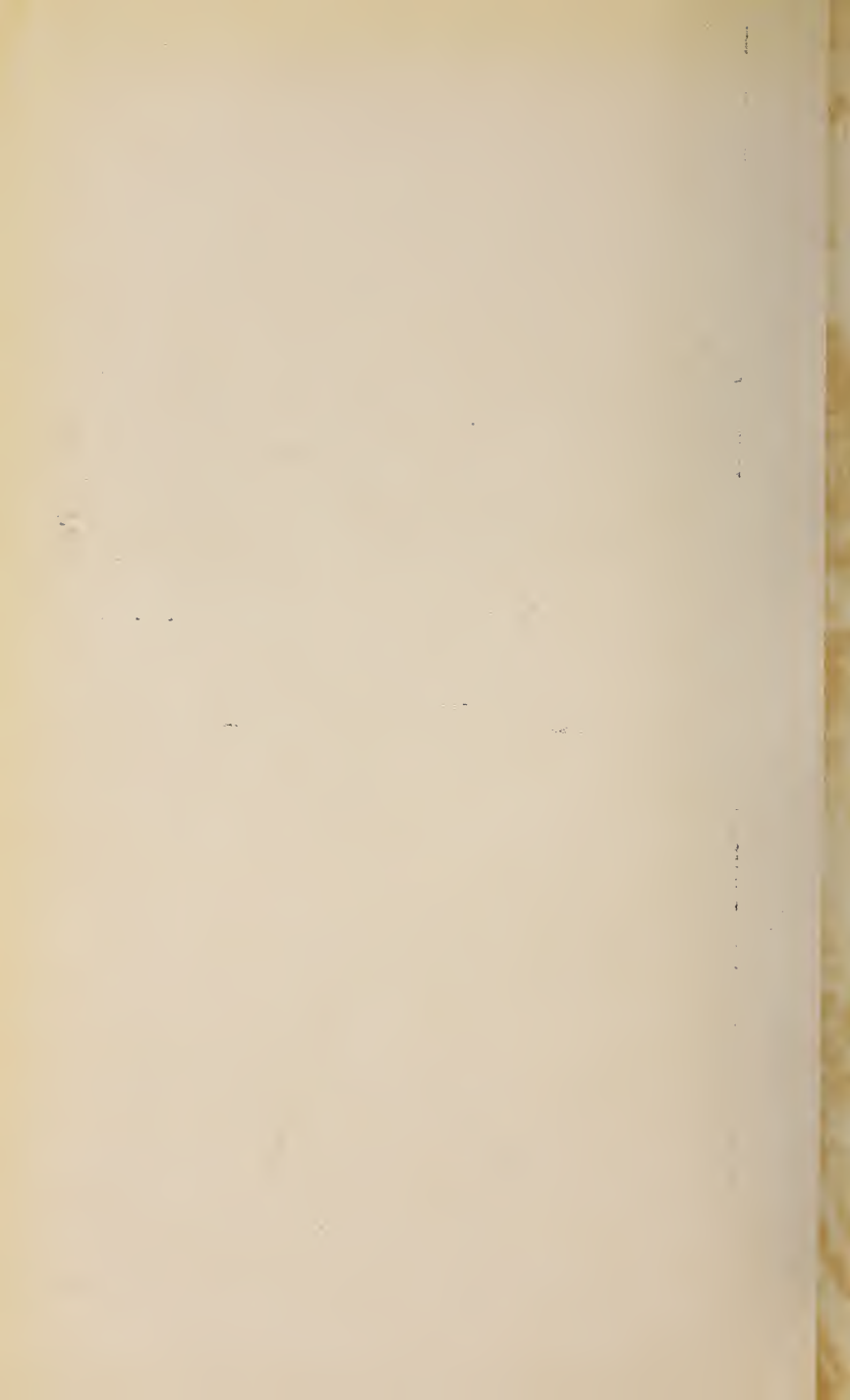
PHOTOGRAPH No. 6.



Conglo-
merate..

PHOTO. : A. COLLENETTE.

Showing the conglomerate.



PHOTOGRAPH No. 7.



PHOTO. : A. COLLENETTE.

The Rock Platform of the 25ft. Beach at Divette. The last remains of the beach disappeared ten years ago.

PHOTOGRAPH No. 8.



PHOTO. : A. COLLENETTE.

Icart Cliffs with opening to the Cave gully, showing rock levelling and slope caused by the 50ft. sea level.

PHOTOGRAPH No. 9.



JERSEY.

PHOTO.: G. A. PIQUET.

On the left is Ile Agois, on the right the Col de la Roque.
Mean height at A about 130ft., at B about 160ft. In the gorge
C are scorings of the pebbles of the 25ft. beach.





25ft. beach

Sea-worn
rocks

PHOTO.: A. COLLENETTE.

Showing 25ft. beach resting on sea-worn rock, which was probably smoothed at an earlier period.

PHOTOGRAPH No. II.
Beach Implements.



PHOTO: MR. H. LE MESSURIER.

Right hand on Photo is from the 25ft. beach. Pre-Chellian. Left hand side is from the clay, probably from the 300ft. beach, also Pre-Chellian. These are described as "Eoliths."

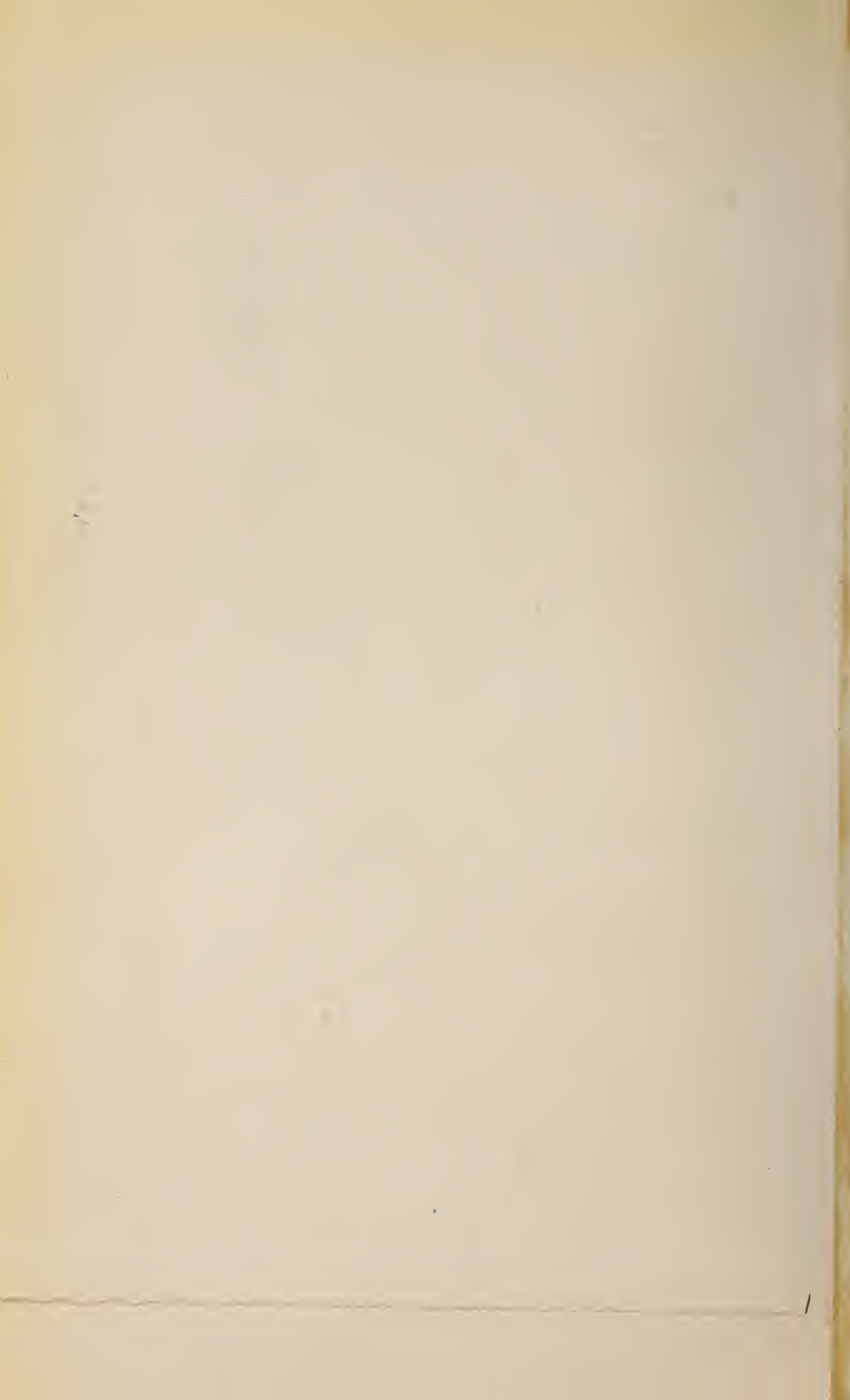




PHOTO. : A. COLLENETTE.

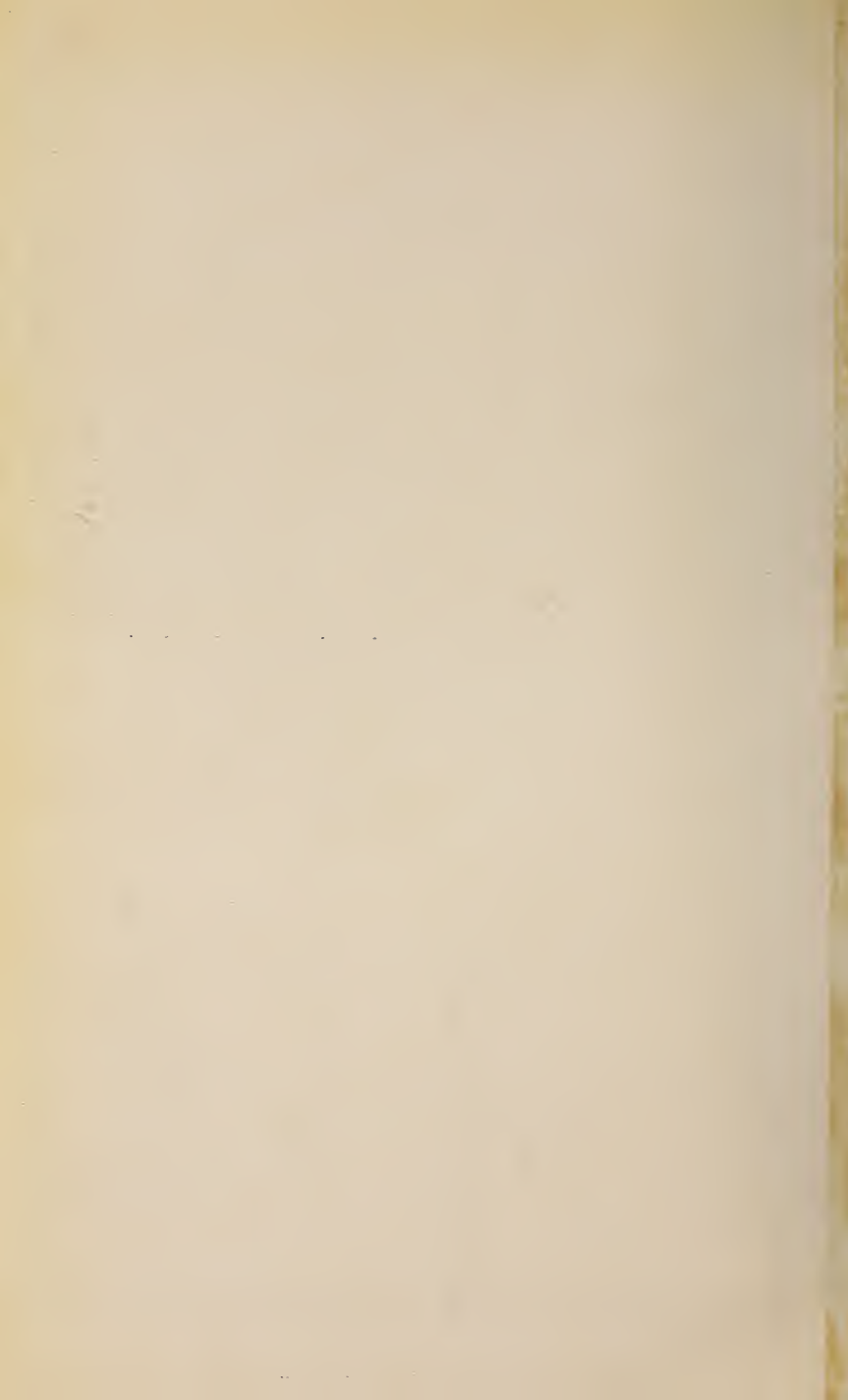
On the West Coasts there are places where the detached rocks lie in thousands on the foreshore and show how the coast rocks have been torn.

PHOTOGRAPH No. 13.



PHOTO. : A. COLLENETTE.

Showing in contradistinction the natural falls from weathering.



PHOTOGRAPH No. 14.



PHOTO. : A. COLLENETTE.

Showing Aërial "Head" forming now at Bon Repos.

PHOTOGRAPH No. 15.



PHOTO. : A. COLLENETTE.

Dolmen on L'Anresse Common buried in sand dunes.

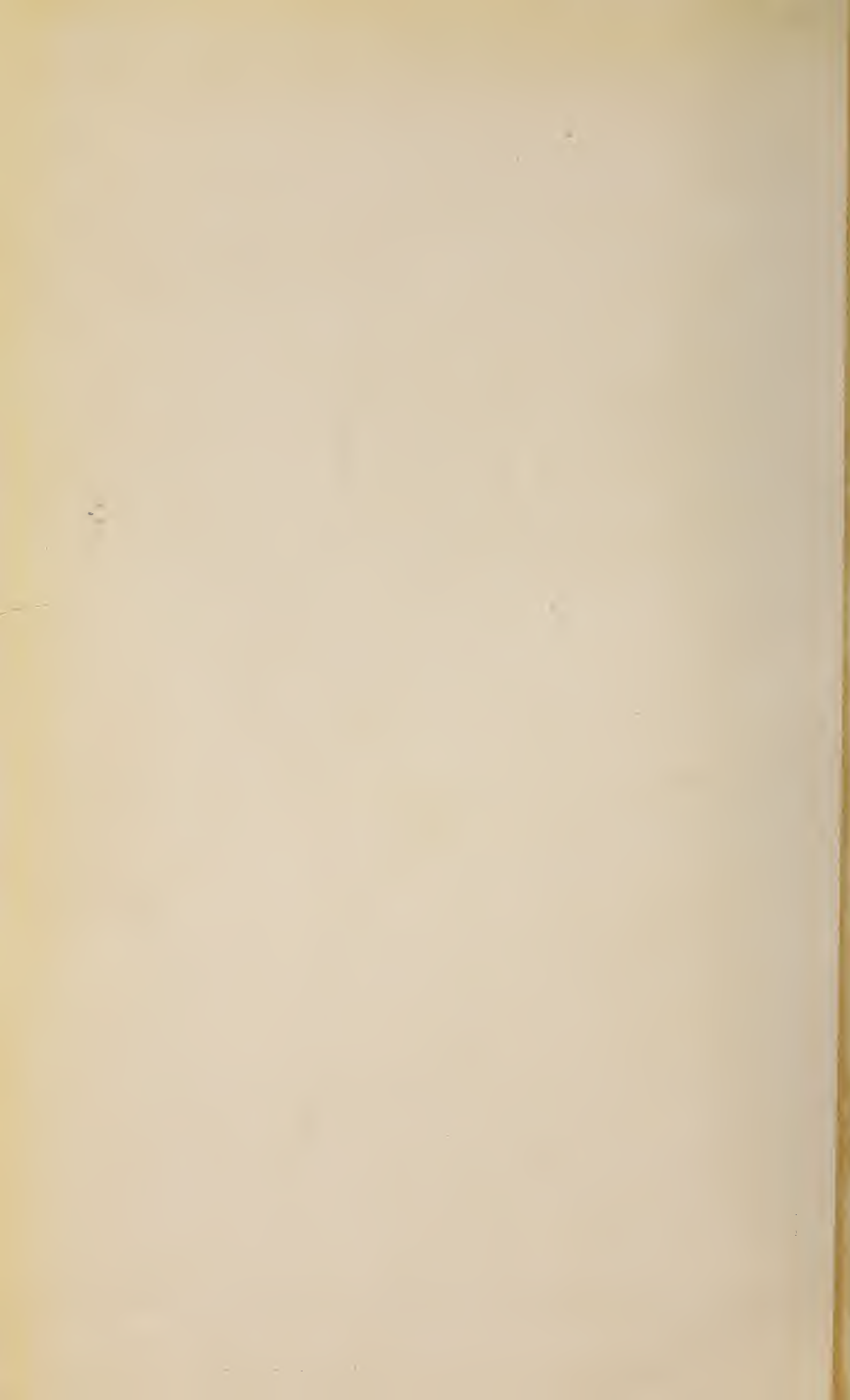




PHOTO. : A. COLLENETTE.

Showing the last of the hollows of the Marais, belonging to the last inundation.

PHOTOGRAPH No. 17.



Cave →



PHOTO. : MRS. F. CLARKE.

Showing the Cave at Les Tielles, at an elevation of 125ft.

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