





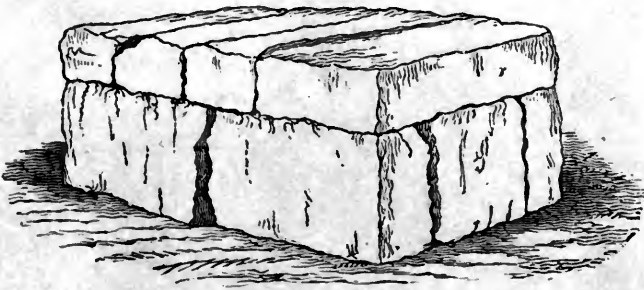


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S. 403. B.

PROCEEDINGS  
OF THE  
YORKSHIRE  
PHILOSOPHICAL SOCIETY.

VOL. I.



Roman Tomb found at York.



LONDON: JOHN CHURCHILL.  
YORK: HENRY SOTHERAN.

1855.

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# PROCEEDINGS

OF THE

*Academies, &c. - York.*

YORKSHIRE

PHILOSOPHICAL SOCIETY.

A SELECTION FROM PAPERS

RELATING TO THE

**Antiquities and Natural History of Yorkshire,**

READ AT THE MONTHLY MEETINGS OF THE SOCIETY,

FROM 1847 TO 1854.



LONDON: JOHN CHURCHILL.

YORK: HENRY SOTHERAN.

1855.





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PROCEEDINGS  
OF THE  
YORKSHIRE PHILOSOPHICAL SOCIETY,  
1847.

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*March 2nd.* The REV. C. WELLBELOVED, in the Chair.

Mr. Thomas Gibson Hartley, of York, was elected a Member of the Society.

The Secretary announced the following additions to the Museum and Library.

*By Donation.*

From Henry Milner, Esq., a collection of specimens illustrating the volcanic and silicious products of Iceland.

From William Procter, Esq., an Ammonite with the mouth entire; from the Oxford-clay of Christian-Malford, Wilts.

From Richard Ripley, Esq., a specimen of *Avicula cygnipes*; from the Lias of Whitby.

From the Rev. C. Wellbeloved, an ancient British Silver Coin.

From John Prest, Esq., an antique Seal, found in his garden, having the figure of a Pelican feeding its young, with the inscription, "*Sum Pelicanus Dei.*"

From the Royal Astronomical Society, Astronomical observations made at the Royal Observatory, Greenwich.

From the Literary and Philosophical Society of Manchester, part ii. of vol. 7 of its Memoirs.

From Sig. G. Michelotti of Turin, a Memoir on the Rhizopoda (Foraminifera, D'Orbigny) characteristic of the Tertiary Formations.

From Mr. Richard Spruce, three Papers on Botanical Subjects, published in Sir Wm. Hooker's London Journal of Botany.

*By Purchase.*

The Head of an Ichthyosaurus, from the Lias at Staithes, valuable for displaying in a beautiful manner the form of the cranium, and the sclerotic plates of the eye.

A remarkably fine Starfish (*Asterias*) in sandstone (of the Coralline Oolitic Formation?) from the neighbourhood of Pickering.

A specimen of the recent genus *Cleidothærus* (*Cl. chamaoides*, Stutchbury), from the Swan River.

Some observations were made by Mr. Charlesworth upon the Geological specimens, and Mr. Meynell offered some remarks upon the interesting shell, the *Cleidothærus*, of which genus the Society's collection previously contained no example.

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The following Paper was then read,

“*On the Statistics of York, in the 13th and 14th Centuries.*”

BY ROBERT DAVIES, ESQ., F. S. A.

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Although some municipalities claim a higher antiquity, there is little doubt that King JOHN was the first English monarch who converted his demesne towns into free burghs, and thus prepared the way for their gradual improvement. Before his reign, the King's collectors made arbitrary levies on the inhabitants of towns, of various talliages and customs for the public service; but the cities and burghs to which King John granted charters of incorporation, were freed from these oppressive imposts, and intrusted with the government and taxation of their respective communities, subject only to the payment of a specific rent, called the Fee-Farm, which was accounted for annually into the royal exchequer. A permanent revenue

of fixed amount and easy recovery was by this means secured to the state: the fee-farm being raised in each town by its own municipal authorities, by way of rateable assessment on all the inhabitants.

To the citizens of York, King John granted, soon after his accession to the throne,<sup>1</sup> a confirmation and renewal of the mercatorial Guild and other privileges they had enjoyed under his predecessors; but it was not until the latter part of his reign that the citizens obtained from the monarch the more important charter, by which the city itself was granted to them in fee-farm, and they were constituted an independent municipality, and empowered to manage their own local affairs and civil interests.

At first, it may be presumed, every resident or inhabitant was deemed to be, *ipso facto*, a citizen, and entitled to participate in the various privileges and immunities of the municipal compact: but as these advantages became more apparent, and the knowledge of their value more widely diffused, they would be eagerly sought for by the population of the rural vicinage, as well as of other and more distant places; and it would become necessary for the civic authorities to adopt some method of registration or enrolment, in order to identify those who were admitted from time to time into the number of citizens, and to acquire the power of subjecting them to such regulation and control, as would be requisite for their mutual benefit.

At what period a register of citizens or freemen was originally commenced in York, cannot be positively determined. The earliest now in existence, begins with the reign of King Edward I., viz., in the year 1272. This is little more than half a century after the grant of King John's second charter; and it is not very improbable, that there was no written register anterior to it. The record is simply a list of the names, and trades or occupations, of the persons who were admitted, in each year, to the privileges of citizenship; one of the most important of which was the right to carry on trade within the

<sup>1</sup> King John's first charter is tested at York, 25th March, 1200. The King was in York on that and the three following days. Vide Hardy's Itinerary.

limits of the city, and under the protection of its municipal government.

A careful and minute examination of the contents of this register from its commencement in the first year of Edward I., to the close of the reign of Edward III., comprehending a series of 105 years, has furnished numerous facts, which are calculated to throw considerable light upon the state of trade and manufactures in York, the extent of its population, and the social condition of its inhabitants, at this early period of our history.

In considering the results of this investigation, the time over which it has extended will be divided into two nearly equal portions:—the first will embrace the reigns of Edward I. and Edward II., occupying a period of 55 years:—the second will comprise the long reign of Edward III., which was precisely half a century in duration.

During the first of these eras, the trades in which the citizens of York were engaged, appear to have been principally those which supply the common necessities of social life. By the Butcher, [66],<sup>1</sup> the Fisherman [24], and the Fishmonger [25], the Baker [77], and the Cook [30], (or, as they are named in the register, *Carnifex*, *Piscator* and *Piscarius*, *Pistor*, and *Cocus*.) the people were provided with the more substantial articles of their diet. A small number of Pulvers<sup>2</sup> [7], Salters<sup>3</sup> [13], and Saucers [6], furnished the wealthier class of citizens with some of the luxuries of the table, and the Spicer or Spicer<sup>4</sup> [22], supplied condiments and probably the few medicinal drugs then known. Towards the close of the reign of Edward II. the admission of a Maltster, a Brewer, and a Camber,<sup>5</sup> denotes the introduction of ale or beer as an article of trade. There are only two Chesers and one Fruter, during this long period. Nine is the whole number of Taverners; so

<sup>1</sup> The figures within brackets denote the number of persons admitted in each trade.

<sup>2</sup> *Poletarius*. (Duc.) 'Item, duos magistros Coquorum, Lardenarium, Pole-tarium, Scultellarium, Salsarium,' &c. Fleta. lib. 2. c. 14. s. 3.

<sup>3</sup> *Salsarius*, (Duc.) cui salsariæ cura commissa est in coquina regiâ.

<sup>4</sup> *Speciarius*, (Duc.) qui omne genus species vendit.—*Espicier*. Fr.

<sup>5</sup> *Cambarius*. (Duc.) Confector cervisiæ.

that houses of public entertainment, or for the reception of travellers, were not in much request. Of the trades and handicrafts for the supply of clothing, it is remarkable that the Girdler [*Zonarius*] and the Shoemaker and Cobbler [*Alutarius—Sutor*] are the most numerous. This circumstance combined with the fact that the principal if not the only manufacture existing in York at this time, was that of leather, seems to confirm the opinion of a statistical writer who tells us that “most of the lower people wore leather doublets and stays or boddice, for cheapness and duration, which were a considerable part of their intire clothing.”<sup>1</sup> During these 55 years, nearly 100 persons were inrolled as citizens under the designation of *Tannator*,<sup>2</sup> and Tannour: and about half that number who are called *Pelliparius*<sup>3</sup> and Pelter, with a few Couraours, Dubbers and Tewers.<sup>4</sup> It may be inferred that the neighbourhood of those streets which yet retain the name of Tanner Row, Tanner’s Moat, and Barker Hill, was a principal resort of the *Tannatores*, but it is obvious from the number of persons engaged in it, that the manufacture was carried on in many other places; and probably the vast number of horns, which have been found, on excavating in various parts of the city, point out the spots where our ancestors had their tan-yards. At this time, the value of horn had scarcely been discovered. The trade of Horner, does not appeared on the register, until the reign of Edward II., and then only three were admitted.<sup>5</sup> In our own times, Horn-breaking and Comb-making have formed an important branch of business in York. It seems probable that the *Zonarius* or Girdler,<sup>6</sup> was not employed

<sup>1</sup> Anderson I. 298.

<sup>2</sup> *Tannare*, Coria subigere.—*Tanner*, Fr.

<sup>3</sup> *Pelliparii*, (Duc.) qui pelles parant, preparant, vendunt.

<sup>4</sup> To tew. [Ang. Sax. *Tavian*.] To beat so as to soften.

<sup>5</sup> The art of working in horn is one, in which the English were much skilled. In 1464, the Horners presented a petition to Parliament, against strangers who came to “understand the konnyng and feate of making horns.” Rot. Parl, IV. 567.—Prompt. Parv. 247.

<sup>6</sup> Modern improvements have swept away one side of Girdlergate, the old street of the York Girdlers. The name is altogether abolished, and it is to be lamented that so interesting a memorial of the customs and habits of former times was not permitted to remain.

exclusively in the making of girdles or belts, although these were important parts of the simple garb then in use; but that he was also engaged in the construction of other articles of apparel which were made of leather. It is not to be concluded however, that York had no citizens at this period, but such as were clothed in leather doublets. A considerable number of Mercers [73] were admitted, who were general dealers in various articles used for the better sort of apparel, probably similar to those who are now called Haberdashers, a name that was not introduced until the subsequent reign. By these and a few Drapers [6], the higher classes were supplied with, perhaps linen, and the finer sorts of woollen cloth: and we find *Cissores*<sup>1</sup> [19], and Tailleurs [23], in sufficient number to convert them into garments. But the admission of only half a dozen Hatters, as many Hosers, and a single Glover, shews that covering for the head, legs, and hands, was not in general use. There were also a few called Parmenters,<sup>2</sup> who were makers or decorators of ecclesiastical vestments; and this completes the list of tradesmen and handicrafts in the department of clothing.

In those days of perpetual warfare, the making of armour, arms, and other military equipments, was an important occupation. We find on the register several Furbours<sup>3</sup> [10] who were manufacturers of armour and arms, a small number called Armourers [3], a Reveter, a few Boughers [6], several Lorimers<sup>4</sup> [14] or dealers in horse furniture, Sellers<sup>5</sup> [13] or Saddlers, Sporiers, and 12 or 14 called *Cirotecarius*<sup>6</sup> or Gaunter, who were makers of the iron and other gauntlets worn by the soldiers of that age.

<sup>1</sup> *Cissor*, a tailor, both for men and women's apparel. Lib. Quot. 363.

<sup>2</sup> *Parmentarius*, (Duc.) qui vestes parat, id est, ornat; nostris olim "*Parmentier*."

<sup>3</sup> *Forbator*, a Cutler or Forbusher of Armour.—*Fourbissier*. Fr. Artisan qui fourbit, monte, et vend des épées.

<sup>4</sup> *Lorenium*. (Duc.) "Pro sabutis, lorenis, palefridis, et aliis necessariis ad equitandum."—Lorimers make bits for bridles, and such like small iron ware. Stat. I Rich. II. c. 12.

<sup>5</sup> *Sellarii*. (Duc.) Sellarum confectores.

<sup>6</sup> *Chirothecæ de guerra*. Gantelets de fer (Duc.)



Of persons employed in the mechanical trades connected with building, the number is very small. During this long series of years, only 8 Carpenters, 11 Masons, 5 Plumbers, 1 Plasterer, 1 Teighler, and 1 Payntor, appear on the register.

In the metallic arts we have Mouneours [2]; Goldsmiths [6]; and Latoners [6], who were workers or manufacturers of Latten, a mixed or base metal, much resembling brass, which was largely used in former times, especially in the formation of sepulchral monuments.<sup>1</sup> We have also several Cotoles<sup>2</sup> [20], and *Fabri* or Smiths [10], a few *Mareschals* [7] or Blacksmiths, *Ferroniers*<sup>3</sup> [9] and Ironmangers; Ferroures [6], or Farriers; and *Aguilers* [6] or Nedelers, a Loksmyth, a Copperer, and a Wiredrager. Of workers in wood, there are only a Turnour, a Wheelwright, and a few Cowpers.

The register affords no indication of either commerce or navigation being in a flourishing state, during these reigns. The thirty-five years of Edward I. give only 2 called *Mercator*, and 9 Mariners, but in the twenty years of the reign of his successor, the *Mercatores* amount to 23, and the Mariners to 21.

Upon a review of these facts it may be concluded, that in the course of the 55 years which elapsed between the accession of King Edward I. in 1272 and the death or deposition of his son in 1327, little improvement had taken place in York. The only manufacture that appears to have been established in the city, was that of leather; the cultivation of the arts of social life seems to have made little progress; nor is there any ground to infer from the number of new citizens or the description of trades to which they were admitted, that there had been any considerable increase either of population or buildings.

But the long reign of King Edward III. forms a new era in the history of our city. Under the vigorous government of that able monarch, trade, manufactures and commerce received a fresh impulse; and rapid advances appear to have been made

<sup>1</sup> Prompt. Parv., 289.

<sup>2</sup> *Coutelier*, (Fr.) qui fait et vend des couteaux, et autres instruments tranchants.

<sup>3</sup> *Ferronnier*, (Fr.) qui vend des ouvrages de fer.

towards a general improvement of the condition of society. The numbers admitted in the several trades connected with the supply of food, increase very considerably during this half century.<sup>1</sup> The English names of Bocher, Bakster and Baker, Fyscher and Fyschmanger now first appear, together with the Mele-maker and Milner. Towards the latter part of this reign, occurs the first instance of the Vyntner and the Wyndragher, which are probably synonymous. The Taverners become much more numerous: and perhaps no fact more plainly indicates an improvement in the habits of the people than that the supply of water was of sufficient importance to create a new business called Water-leder, and by that description several persons were admitted. There is a slight increase of the number of Maltsters and Brewsters<sup>2</sup> or Cambers, and a single example occurs of the *Braciatrix*. In addition to the Saucers [13] of the preceding reigns, there are some called Sausmakers [5], which has probably the same meaning. That the commodity made or sold by these traders, was something very different from the stimulating luxuries now used at table under the name of sauces, will be readily believed; but it is not easy to determine what was meant by sauce, in the 14th century. An eminent Antiquary thinks that culinary vegetables were designated by this word,<sup>3</sup> and in that case Sausers were what we now call Green-grocers. But the term Sausmaker conveys the idea that some kinds of sauces were manufactured, and not vegetables in their natural state.<sup>4</sup> By a sumptuary law made in 1336,<sup>5</sup>

<sup>1</sup> Butchers, 120; Fishermen, 34; Fishmongers, 44; Pulters, 11; Bakers, 91; Cooks, 63; Spicers, 44; Taverners, 23.

<sup>2</sup> Robert de Kilburn was admitted in 1356 by the title of "*Braciator Sancti Leonardi*."—*Braciator*, (Duc.) Confector cervisiæ.—*Brace*. Grani species ex quo cervisia conficitur.

<sup>3</sup> Comp. in expenc. v'sus Londonia, 17th Edw. I., with notes by the Rev. Joseph Hunter. Ret. Rev. I. 271.

<sup>4</sup> "I want cunning, by order to describe  
Of every course, the diversities;  
The strange *sewes*, and the subtleties,  
That were that day served in that place."

Lydgate's Siege of Troy, temp. Hen. V.

<sup>5</sup> 10th Edw. III.

it was ordained that "no man, of what condition soever, shall be served at *disner manger ne soper*, with more than two courses, each mess of two sorts of victuals at the utmost with the common sorts of pottage, without sauce or any other sort of *viaundez*." And the act continues, *si home voet avoir sawes p<sup>r</sup> messe, les eit, siq ils ne soient pas faitz de grauntz coustz*.

During the latter half of this reign, two Colliers are admitted; from which it may be inferred that Coal had become an article of trade and domestic consumption in York about the middle of the 14th century: although some writers state that it was not brought into common use until the reign of Charles I. The earliest mention of coal is said to be in a document dated in 1245.<sup>1</sup> In 1307, King Edward I. issued a proclamation, prohibiting the use of it as fuel in the neighbourhood of London, because it infested the air with a noisome smell and a thick smoke to the great endangering of the health of the inhabitants. It is recorded, that in 1327, ten shillings worth of Newcastle Coal was purchased for the coronation of Edward III., which took place in the month of January. It is only 25 years later, that the first Coillier<sup>2</sup> appears on the register: so that the citizens of York had not been backward in discovering the usefulness of this valuable mineral, with which they were, doubtless, supplied by sea from the Port of Newcastle. The circumstance of one of our streets having the name of Colliergate, by which it was certainly known in the 14th century, would favour this conclusion. Indeed there is distinct evidence that sea-coal, or, in other words, mineral coal conveyed by sea, and hence called *carbo marinus*, was an article of commerce in York early in the 15th century. In a comptus of 1445, it is recorded that Wm. Stanes paid a fine of 4d., "*pro vendicione carbonum maritimorum*."

<sup>1</sup> The Wardrobe Account of 28 Edw. I., 1299, contains the following entries:—"De 6 quarter' di' carbonum maritimorum recept' de stauro Regis apud Berewycum." p. 151.—"De 96 quarter' carbonum mar' vend' de stauro predicto—precium quarter' 6d  $\frac{1}{2}$ ." p. 9

<sup>2</sup> "Hugo Bullour, Coillier de Boutham." 29th Edw. III. 1352.

The number of persons admitted during this period in the various trades and handicrafts for the supply of clothing, is surprising. So many as nearly 300 Mercers<sup>1</sup> and 70 Drapers<sup>2</sup> in the course of fifty years must have been occasioned by the demand of a large and increasing population. Above 300 *Cissores* and Tailleurs, and 220 Cordwainers shew that the operatives kept place with the shopkeepers. A considerable increase of Hatters, Hosiers,<sup>3</sup> and Glovers, the appearance of several Capmakers, Pouchmakers, and Pattenmakers, and a decrease of Girdlers, as compared with other trades, indicate a departure from the coarseness and simplicity of apparel prevalent during the preceding reigns, and a more general diffusion of a taste for articles of comfort and convenience. The trade of Haberdascher<sup>4</sup> appears towards the middle of this period; and a considerable number of Chapmen<sup>5</sup> [50], who were a kind of petty merchant.

In the various mechanical arts and trades connected with building, a corresponding improvement is manifest. Carpenters, Masons, Plumbers, Teighlers or Teighle-makers, Plasterers and Payntors, are admitted in considerable numbers; and to these are now added Joigneours, Pinner, Sawers, and Glasenwrights: only five of the last mentioned trade are registered, and those, towards the close of the reign.

Besides Cowpers and Turnours, we have now Bollers, Molde-makers, and Cartwrights, and also one Bellows-maker. The invention of the bellows is attributed to the Germans, and an

<sup>1</sup> *Mercerius, Mercenarius*, (Duc.) *Mercator*; *minutæ mercis propola*, vulgo *Mercier*.

<sup>2</sup> Some writers suppose that Drapers were makers of cloth, but it seems more probable that they were sellers of it only.

<sup>3</sup> *Osa*. (Duc.) *Germanis, Hose*. *Cambro-britt. Hosen*.

<sup>4</sup> *Habt ihr dass*. *Germ. Johnson in voce*.

<sup>5</sup> *Ang. Sux. Ceapman, mercator*. The register contains a single example of the Hukester, which means a person who sold by outcry. The latin name for hukester was '*Auccionarius*,' and hence the modern name 'Auctioneer.'

"Hail be ye, hokesteres, dun by the lake,  
With candles and golokes, and the pottes blak,  
Tripes and kyne feet, and sheepes heads."

. Harl. MS. date 1308. Prompt. Par. 252.

artist called Hans Lobsinger, who lived at Nuremberg in 1550, is supposed to have been one of the earliest makers of large and small bellows, which were used for both furnaces and organs. By one writer the discovery is dated as late as in 1630. The York register tells us that we were indebted to a Fleming for the knowledge of this useful machine at a much earlier period. "Nicholas le Yhonge de Flandres" appears to have been the person who first brought it to York.

The admission of about 40 Potters shews that the manufacture of earthenware had become a business of some importance.

Of the artificers of armour and weapons there is a great increase; and to many Furbours,<sup>1</sup> Armourers, and Boughers, are now added a proportionate number of Flechers or Arrow-smiths, Bladesmiths, Reveters, and Shethers. Lorimers, Sellers or Saddlers, and Sporiers, are also numerous.

Of workers in metals, the most important is the *Aurifaber*, *Orfever*, or Goldsmith; and under one or other of these names nearly 40 persons are registered during this reign: and there are several called *Batur*, *Orbatur*, and *Goldbeter*, terms which are probably synonymous. There are six Mouneours, two of whom were from Italy, viz., Laurentius de Florence,<sup>2</sup> and Bonache de Florence.<sup>3</sup> A few years previous to these foreigners becoming citizens of York, an act of parliament<sup>4</sup> had authorised "money of gold and silver to be made in the City of York, in the manner as it was made in the Tower of London;" and it may be presumed that under the sanction of this act, a coinage of some extent and importance would be established in York. The business of the King's mint was, in early times, carried on within the precincts of the Castle of York, in certain houses and buildings there appropriated

<sup>1</sup> Several of these were importations from Germany: viz.,

Arnaldus de Almaygne, Furbour;

Ingilbright de Alman, Furbour;

Christianus de Devenesrode, Furbour d'Alman;

Tydkynus van-the-rode, Furbour.

<sup>2</sup> Admitted in 1362.

<sup>3</sup> Admitted in 1364.

<sup>4</sup> 18th Edward III. c. 6. The first coining of gold in England was in 1344. Anderson, I. 317; Rym. Fæd. V. 403.

to that purpose. In an account of William Haryngton, Sheriff of Yorkshire in the reign of Henry VI. *de custubis et expensis per ipsum factis circa reparacionem et emendacionem diversorum domorum pro factura monete regis infra castrum Regis Ebor'*, it appears that Bartholomew Goldbeter, *magistrum monete regis infra Turrim Regis London' et civitatem Regis Ebor'*, was appointed *ad supervidend' et ordinand' domos et edificia pro factura monete Regis infra castrum suum Ebor' necessar'*, and that he had certified that the houses aforesaid were so ruinous, and wanted so much repair, that they were not fit for the purpose, and the King wishing to have them put into a state of repair, or if necessary new buildings to be erected, ordered the Sheriff to find the funds out of the issues of the county.<sup>1</sup>

In addition to the *Fabri* [35], *Mareschals* [46], *Cotolers* [66], *Ferrouers*, *Nedelers*, and *Latoners* of the former reigns, of whom there is a great increase, we have the *Bucklemaker*, *Wire-dragher*, *Sheregrinder*, *Filer*, *Nayler*, *Foundour*, *Pewterer*, *Pinmaker*, and *Tynkler*.

Of the trades connected with literature the register does not present many instances. There are some *Parcheminers* or *Parchment-makers*, and a few *Bookbinders* and *Scriveners*. For her first bookbinder, York seems to have been indebted to one of the universities. "Adam de Oxenforth, Bokebinder," was inrolled in the year 1345. Above 50 are admitted who are styled *Clericus*, which would lead to the supposition that it was not unusual for ecclesiastical persons to engage in secular employments, unless we are to take this term to signify scribe or amanuensis.<sup>2</sup>

The appearance in the register of three *Pipers* and two *Organisters*, a *Harper* and a *Harp-maker*, a *Trumper* and a *Fitheler*, indicates that the cultivation or practice of the art of music was not wholly confined to churches or monastic

<sup>1</sup> For this valuable addition to our knowledge of the early history of the city, I am indebted to the kindness of my friend the Rev. Joseph Hunter.

<sup>2</sup> Clerici præterea dicuntur scribæ, actuarii, et amanuenses judicium vel officialium regionum, &c. (Duc.)

establishments. Dr. Burney says, that in a legendary life of St. Christopher, written about the year 1200, mention is made of the Fiddle:—

————— “ Cristofre him served longe ;  
The Kynge loved melodye of Fithelle and of songe.”

In the verses of Robert Mannyng, commonly called Robert de Brunne, who flourished above a century later, the “Harpe” and “Organes” are mentioned;<sup>1</sup> and Chaucer, who died in 1400, alludes to both the “Fidel” and “the merry Orgon,” and this Dr. Burney regards “as a proof that organs were very general in our abbeys and cathedrals at the latter end of the 14th century.” It may be doubted whether the organisters of York, in the reign of Edward III., were makers of organs or performers upon the instrument. The common organ of this period (or pair of organs as it was then called) was a portable instrument, somewhat different from the stately and elaborate piece of mechanism now known by that name. On the occasion of King Henry the Seventh’s visit to York, in the first year of his reign, a pair of organs was hired to grace the pageant exhibited on the King’s entry at Micklegate Bar; and the sum of 12d. was paid for the loan of the instrument, and the reward of the musician who played upon it.

Before the close of this reign 4 persons were registered under the title of *Medicus*, and one who is called a *Leche*.<sup>2</sup> It may not be uninteresting to our medical friends to know that the first physician who became a citizen of York was “Johannes Crespyn de Caumbray, medicus.”<sup>3</sup> The practice of surgery is supposed to have been principally in the hands of the Barbours, of whom more than 30 are admitted by that name during the half century, and nearly as many under the description of *Toundour*. One of the earliest instances of an apothecary

<sup>1</sup> “Orgues, chymbes, each manner glee,  
Was drynan ayein that lady free.”

Adam Davie’s *Life of Alexander*, circa 1312.

<sup>2</sup> “For murderers are many *leeches*; Lord hem amend!  
They do men die by their drinkes, ere destiny it would.”

*Pierce Plowman’s Vision*, circa 1350.

<sup>3</sup> He was admitted in 1338.

being mentioned in any English document is in the wardrobe account of the 28th Edward I.<sup>1</sup> In the year 1345, *Coursus de Gaugeland, apothecarius de Lond'*, had attended King Edward III. in one of his Scottish expeditions, and afforded him relief when he was detained by a grievous sickness; for which service the monarch rewarded him with a pension of 6d. a day for his life.<sup>2</sup> No *apothecarius* appears in the York register at this period, but the term *medicus* signified at that time, as at present, a higher class of practitioners.<sup>3</sup>

The progress of commerce and manufacturers yet remains to be noticed. With regard to the former it may suffice to observe that the number of persons registered during this reign, under the names of *Mercator* and *Merchaunt*, and of *Nautilus* and *Mariner*, as compared with the preceding half century, is nearly in the proportion of five to one; and from the admission of several under the denomination of *Schipwrights*, it may be inferred that ship-building was one of the arts then introduced into York. As to manufactures, I may notice, in the first place, that leather continues to be one of the staple articles of production. About 150 Tanners and 100 Pelters and Skynners, with an increased number of Couraours and Tewers, manifest to what extent this manufacture was prosecuted; and, in connection with it, a new branch of business occurs, viz., that of Barker, of whom 30 are registered in about as many years. An increase of Horners shews that a greater demand had arisen for the various useful articles formed of that material.

But unquestionably the most important feature of this period is the introduction into the city of the manufacture of woollen cloth. It is a well known historical fact, that prior to the early part of the 14th century, wool was exported from England in large quantities to various places on the continent of Europe, and especially to the Netherlands. Mr. Frost in his valuable "Notices

<sup>1</sup> "Petro Apotecario Regine, pro nucibus, piris, pipere, ficibus, et racen' et aliis fructibus et speciarum diversis emptis per eundem," &c. Lib. Quot. p. 58.

<sup>2</sup> *Fœdera* II. 61. Ed. 1816.

<sup>3</sup> King Edward III. granted a pension of £100 a year to Pontius de Coutrone, whom he calls *dilectus medicus noster*, for his services to the King's father and mother. *Ibid.* 862.



for the Early History of Hull," states <sup>1</sup> that in little more than two years during the latter part of the reign of King Edward I. upwards of £10,000. was paid for the duties on wool, woolfels, and leather, exported from Hull only. In exchange for their wool, the English obtained the finer sorts of cloth, and other manufactured articles, which they were unable to produce themselves. King Edward III. having had the opportunity of personally witnessing the vast advantages which the people of the continent derived from their various manufactures, very soon after his accession to the throne commenced those efforts to introduce the cloth manufacture into this country which ultimately proved successful. He laboured incessantly to induce the cloth-workers of Brabant and other provinces of the Netherlands, to visit his dominions and teach those arts, in which they were so skilful, to his less ingenious subjects; and the city of York appears to have been a peculiar object of the monarch's solicitude in this respect. In August 1328, the second year of his reign, whilst the King was at York he renewed the statute called the *charta mercatorum*, <sup>2</sup> which was especially designed for the encouragement of foreign cloth-merchants to settle in England. In July 1331, <sup>3</sup> he granted a charter of protection to John Kemp of Flanders, '*textor pannorum laneorum*,' authorising him and his servants and apprentices to exercise their mystery in England, and promising similar protection to all others of the same mystery, as well as dyers and fullers, who would come from parts beyond the sea and settle in this country. <sup>4</sup> In December, 1336, the King granted letters of protection to *Willielmus de Brabant*, and *Hanckenius de Brabant*, *textores*, who had already come to England and were at York, *officium suum ibidem exercentes*. <sup>5</sup> The names of these individuals do not appear in the York register, nor indeed was it to be expected that they would be inrolled as citizens of a place which they visited for a temporary purpose only. But the appearance of

<sup>1</sup> P. 110.

<sup>2</sup> 31st Edw. I.

<sup>3</sup> Rymer's Fœdera, IV. 496.

<sup>4</sup> It is said that Kemp established himself at Kendal, and that his descendants still remain there.

<sup>5</sup> Rymer's Fœdera, IV. 723.

the following names in the register sufficiently proves that many of the Netherlanders and other foreigners, who came to sojourn in the city, were induced to become permanent members of the municipality :—

Nicholas de Admare de Brabant, webster.  
 Robertus de Paris, litester.  
 Benesevyn de Florentia.  
 Henricus Morell de Flandr'.  
 Ricardus de Demelthrothe de Alman.  
 Michael de Newkirk de Flandr', aurifaber.  
 Gotolinus del Haghe, Esterling.  
 Arnaldus de Lakensurcher.  
 Goddeskalk de Smithhusen.  
 Goddeskalk Scudik de Alman.  
 Henricus de Oude de Malyns in Brabant.  
 Thomas Braban de Malyns, tixtor.  
 Laurencius Conyng de Flandr', webster.  
 Georgius Fote de Flandr', walker.  
 Johannes Lutyng de Holand.  
 Godfridus de Ulenbergh, webster.  
 Godfridus Overscote de Brabant, mercator.

In 1336-7, an act of parliament was passed prohibiting the use of foreign cloth, and promising that "all clothworkers of strange lands, of whatsoever country they be, which will come to England, Ireland, Wales, and Scotland, shall come safely and surely, and shall be in the King's protection and safe conduct, and have franchises and privileges granted to them." The public records of his reign contain much further evidence that Edward never lost sight of this important object.

That before the termination of this reign, the manufacture of woollen cloth was established and extensively prosecuted in York, the register affords abundant proof. During the two preceding reigns, scarcely a trace is discernible of any art or occupation connected with cloth-making. There were two or three Saghers,<sup>1</sup> who were makers or sellers of a coarse sort of hempen cloth, of which a vestige remains in that which is

<sup>1</sup> *Sagarius*, (Duc.) *Sagorum venditor*. *Sagum*, *Panni species*.

now called Sacking : and three or four persons were admitted by the description of Chaloners, makers of a kind of woollen bed-cloth or coverlid called Chalun, or Chalone. <sup>1</sup> Of weavers, dyers, and fullers, not more than two or three were admitted. But the reign of Edward III. furnishes a list of about 170 weavers, 100 dyers, 50 fullers, and above 30 chaloners, with a suitable accompaniment of schermen, wollepackers, tapetters, cardmakers, and other trades allied to the woollen cloth manufacture, not one of which is previously mentioned. It is remarkable that during the early part of the reign, in the register the dyer is called *Tinctor*, or *Teinturer*, and the weaver *Textor* or *Tistour*, whilst the fuller has no other name than Fullour ; but soon the weavers become Websters ; the dyers, Litesters ; and the fullers, Walkers. These words—webster, litester, and walker, are of Teutonic origin, and it seems quite natural that the Netherlanders should have introduced their technical terms to the citizens of York, whilst they were imparting to them their skill in the manufacturing arts. The derivation of some of our most common surnames may be traced to this source :—the Websters, the Listers, the Walkers. Perhaps the Chaloners may be surprised to find that their name has so ignoble a paternity.

A pleasing illustration of the meaning of the term *Walker* is afforded by an incident mentioned in Lockhart's memoirs of Sir Walter Scott. <sup>2</sup> In his diary of a voyage to the Hebrides in 1814, Sir Walter records, that whilst he and his party were at Kilmore in the Isle of Sky, "in a cottage at no great distance we heard the women singing as they *waulked* the cloth by rubbing it with their hands and feet, and screaming all the while in a sort of chorus. At a distance the sound was wild and sweet

<sup>1</sup> *Shalloon* is a name still used for a certain description of woollen stuff, said to have been originally manufactured at Chalons, a town in the department of the Marne in France, where at this day a considerable trade is carried on in these and other coarse stuffs.

"And in his owen chambre hem made a bedde  
With shetes and with *chalons* faire y-spreddre."

Chaucer. *Reve's Tale*. Prompt. Parv. 68.

<sup>2</sup> Vol. III. p. 230.

enough, but rather discordant when you approached too near the performers." It seems curious to discover in this remote part of the kingdom, the continuance to this day of the primitive method of fulling cloth as it was practised in York in the 14th century.

As to the extent of the population of the city at this period, the materials are too scanty to lead to any safe or satisfactory conclusion. One or two facts may be stated which will perhaps form a basis for some calculation on the subject. During the first half of the reign of King Edward III., viz., from 1327 to 1352, the aggregate number of citizens inrolled was 1760, giving an average of about 70 per annum. During the second half of the same reign, viz., from 1352 to 1377, the aggregate number was 2350, being an average of 94 per annum. Now, during the 75 years which elapsed between the accession of King George III. and the year 1834,<sup>1</sup> the average number of freemen admitted was not more than about 100 per annum; and it must be taken into account that, whilst in modern times a considerable number of non-residents were inrolled as citizens, there can be no doubt that in the infancy of the municipality, none were admitted to the franchise but such as were, and intended to continue, resident members of the community.

The following list of those who were inrolled in the year 1272 (1st Edward I.), will exhibit the manner in which the population of the city was increased by a gradual supply from the towns and villages in the immediate neighbourhood: for, if the opinion of Camden be correct, that the use of surnames was not generally adopted by the mass of the people until the reign of Edward II., the names of the towns attached by the preposition *de* to the Christian names of these new citizens must be taken to denote the places of their birth or previous residence:—

*In the time of John le Specer, Mayor.*

Thomas de Fulford, cordwainer.

Robertus de Clifton, pelliparius.

Galfridus de Knapton.

<sup>1</sup> The population of the City of York in 1831 was about 25,000.

Hugo de Moreton, zonarius.  
 Johannes de Moreton.  
 Robertus de Ricale.  
 Robertus de Newton, mercer.  
 Thomas de Thornton, mercer.  
 Nicholas de Clifton.  
 Alanus de Roeliff, zonarius.  
 Rogerus de Eskrik.  
 Johannes de Haxby, mercer.  
 Ricardus de Bottereramb.  
 Willielmus de Fangfoss, alutarius.  
 Willielmus de Thornton.  
 Johannes de Cathall, sellar.  
 Ricardus de Bilbrough, molendinarius.  
 Ricardus de Rughford.  
 Simon de Acum.  
 Robertus de Copmanthorp, tannator.  
 Petrus de Foxholes, zonarius.  
 Jacobus de Pickeryng, pistor.  
 Johannes de Setryngton, pelliparius.  
 Ricardus de Pytyngton, pistor.  
 Johannes de Kirkham, pelliparius.  
 Ricardus de Conyston.  
 Ricardus de Heperhingam, eissor.  
 Willielmus de Alvarthorpe, pistor.  
 Adam de Lede.

Although these details are somewhat dry and tedious, I venture to think that the information they afford will not be considered either uninteresting or unimportant. Facts of this class are very sparingly furnished by our general histories : and the truth of history, as regards the social condition and domestic habits of the people at any given period, must wholly depend upon the fidelity and accuracy with which local transactions and circumstances are described and narrated. Dr. Henry, in his "History of Great Britain," was the first to adopt the method of giving an account of the civil and domestic affairs of the community separately from the military and political transactions of the state, and his work contains only the following short passage relating

to York in the reign of King Edward III.—“The slaughter of the Jews at the commencement of Richard the First’s reign seems to have been fatal to the trade of York, which declined so fast that it was able to send only one small ship with nine mariners to the fleet of Edward III.”<sup>1</sup> That there was a massacre of the Jews in York during the reign of Richard I., and that heavy pecuniary penalties were inflicted upon some of the inhabitants who were concerned in the outrage, are facts established by unexceptionable evidence.<sup>2</sup> But it seems highly improbable that the trade of York should not have overcome the effects of these disastrous circumstances at the distance of more than 170 years from the time when they occurred. “The Roll of the huge Fleet of Edward III. before Calais in 1359,” is given in Hakluyt’s Voyages;<sup>3</sup> and on this list, whilst York appears as having furnished only 1 ship and 9 men, Newcastle is stated to have sent 17, Hull 16, and Grimsby 11 ships. But the largest number was sent from the port of Great Yarmouth, which furnished 43 ships and 1905 mariners, whilst London itself sent no more than 25 ships and 662 men. As it would be absurd to infer from this account that Yarmouth then exceeded London in commercial importance, it is obvious that no just conclusion can be drawn from it, as to the condition of the trade of York at this period. ‘The Pictorial History of England,’ a well-known publication of the present day, is compiled upon a plan similar to the work of Dr. Henry, and in the chapter which professes to give an account of the national industry of the English during the 14th century, the following passage occurs: “In the provincial towns trade was of course conducted on a smaller scale than in London. The exchange of commodities was effected to a great extent at the fairs and at the markets, and

<sup>1</sup> Vol. VI. p. 266.

<sup>2</sup> Warinus de Cuningstrat’ r̄. comp. de xl s. xd. pro occis. Judeorum.

Erkenbaldus le Waisdier r̄. comp. de xx s. pro eodem.

Walterus filius Remij r̄. comp. de xxxij s. pro eodem.

Robertus de Selebi r̄. comp. de xxxj s. viii d. pro interfectione Judeorum.

Henricus de Fiskergat r̄. comp. de ij m. pro eodem.

Rot. Canc. 3rd John.

<sup>3</sup> Vol. I. p. 192.

they gave an air of animation and life which would strongly contrast with the dulness by which they were preceded and followed. In the reign of Edward III., Colchester contained 359 houses, some built of mud, others of timber, and none having any but latticed windows, and yet there were only about nine towns in England of greater importance. The number of inhabitants was about 3000. Colchester was the centre of resort for a large district, and the trades carried on in it were the 29 following:—Baker, Barber, Blacksmith, Bowyer, Brewer, Butcher, Carpenter, Carter, Cobbler, Cook, Dyer, Fisherman, Fuller, Furrier, Girdler, Glass-seller, Glover, Linen-draper, Mercer, and Spice-seller, Mustard and Vinegar-seller, Old Clothes-seller, Tailor, Tanner, Tiler, Weaver, Wood-cutter, and Wool-comber.”<sup>1</sup> As the whole of the information which the work contains on this particular subject, is comprised in the passage I have quoted, it may be assumed that none other could be got, and consequently that the state of Colchester as here described is given as a fair specimen of the general condition of provincial towns in England in the 14th century. Whether York were one of the “nine towns of greater importance,” adverted to by the writer, is left to conjecture. But surely no doubt can be entertained that the condition of the metropolis of the North was then incomparably superior to that of the capital of the county of Essex. The twenty-nine trades of Colchester dwindle into insignificance, when contrasted with the long list of trades, occupations, and professions existing in York during the reign of Edward III. These amount to the surprising number of one hundred and eighty, including among them all the incorporated trades or mysteries of London, of which there were thirty-six prior to the year 1376, when they were increased to forty-eight. This fact appears still more remarkable when we find from the census of 1831 that the whole number of the trades and professions of York in the early part of the 19th century was only one hundred and twenty-two. It is also stated in the ‘Pictorial

<sup>1</sup> Pictorial Hist. I. 841. Most of these facts respecting Colchester, are gathered from the Taxation Rolls of the 24th and 29th Edward I., printed in Rot Parl. I. 245. et postea.

History,' in a passage preceding that above quoted, that "a large portion of the trade of the country was transacted at fairs and markets. The tradesmen of London had shops in the Cheap, which resembled sheds, and many of them had simply stalls, and travelling occasionally from place to place they may be considered as having been pedlers as well as tradesmen."<sup>1</sup> Dr. Whitaker in his 'History of Craven,' represents that "in those times" (alluding to the commencement of the 14th century), "there were few or no shops, and that the necessaries of life were purchased at the great annual fairs."<sup>2</sup> The correctness of Dr. Whitaker's statement is questioned by Mr. Frost, who observes that the rents of shops at Hull were mentioned in an account rendered to the Archbishopric of York in 1294; and two shops in the Market-place are the subject of a grant dated in 1303; and in 1317 six shops are described as situate in the High-street; but he suggests a doubt whether the shops were allowed to be used at any other time than during the holding of the fairs, because a statute, passed in 1332, commanded that the merchants attending fairs should shut up their shops and stalls at the close of the fair.<sup>3</sup> Possibly Dr. Whitaker's opinion was correct as to the scarcity of shops in small towns during the reign of Edward I., but it is obvious that a very different state of things prevailed in York not more than half a century later. A compotus of the date of 1376 enumerates more than sixty shops within the city then let to different tradesmen at rents varying from 10s. to 30s. per annum each; and the rent of one of larger dimensions than the rest was 36s.<sup>4</sup> Many of these shops were situate upon Ouse-bridge, and several in Nessgate and other adjacent streets. Fifteen of them were in 'Hosier's Rawe,' a place near the Pavement. Several shops near Foss-bridge are also mentioned in the same document; and it is reasonable to suppose that other parts of the city were equally well supplied, as the shops would necessarily bear a due proportion to the number of tradesmen,

<sup>1</sup> Pict. Hist. I. 840.

<sup>2</sup> Whitaker's History of Craven, p. 326.

<sup>3</sup> Hist. Not. of Hull, p. 19.

<sup>4</sup> "De Roberto Wrenche pro magna shoppa juxta le Maysendieu, xxxvi s."



and the amount of the rents paid for them proves that they were something superior to the sheds or stalls described in the 'Pictorial History.' It need not be contended that the York shops of the 14th century bore any resemblance to the spacious and elegant *Depôt* or *Boutique* of the present day. It is apparent that many of these shops formed no part of the dwelling-houses, but were detached and separate : and most probably many of them were huddled together in the more frequented streets and thoroughfares, which from their gloominess and narrowness would resemble in some respects the bazaar of an Eastern city in modern times.

It may not be deemed an inappropriate illustration of the preceding facts, if I attempt to present to you a sketch, necessarily slight and imperfect, of the external aspect of York towards the close of the 14th century.

I will commence with the Minster, which must always possess the first claim to our regard and admiration. To the refined taste and religious zeal of those eminent prelates, Romaine, Melton, and Thoresby, we are indebted for the nave, the chapter-house, and the choir : and the munificence of Skirlaw gave a noble finish to the whole by raising the central tower. The contract for executing the glazier's work of the great East window is dated in 1405, so that the fabric of the choir was, most probably, intire before that time ; and as the Western towers were erected a few years afterwards, it is but a slight anachronism to say that at the period chosen for our imaginary survey, our beautiful cathedral was nearly as complete as we see it at this day.

Next to the Minster in importance was St. Mary's Abbey, the great Benedictine monastery among the interesting ruins of which we are now assembled. The most eminent of its abbots, Simon de Warwick, died in the preceding century. To him are ascribed the construction of the boundary walls and towers, and the completion of the church. The chapter-house, and the lodge and gateway, and great part of the abbatial buildings were of a still earlier date ; and although there were some subsequent erections, we may safely assert that the magnificence of this

splendid monastery, and (to use the words of its learned and venerable historian) “the exquisite taste and unrivalled elegance” of its various parts, were at no period displayed in greater perfection than at the close of the 14th century.<sup>1</sup>

Separated from St. Mary’s Abbey only by that most interesting relic of a more remote antiquity, the Roman vallum and tower, stood the wealthy Hospital of St. Leonard, which Drake calls “one of the antientest as well as noblest foundations of that kind in Britain.” The few remains now existing of the buildings that belonged to this establishment, and especially the elegant gable of the infirmary chapel which is once more restored to the light of day, shew that in architectural style and decoration, it was not unworthy of being in the immediate vicinity of St. Mary’s Abbey.

The fortifications of the city were at this time probably in their most entire and perfect form. It was in the year 1327 that King Edward III., whilst on one of his progresses against the Scots, issued his mandate to the citizens of York, requiring them to put the city and her walls ditches and towers into a sufficient state of defence, for the safety of his mother brother and sisters, while they abided in it. We cannot doubt that the citizens would readily obey the command of a monarch who was their frequent visitor and liberal benefactor. In the opinion of antiquaries, the superstructure of the principal bars or gates, especially of Micklegate Bar and Monkgate Bar,<sup>2</sup> which are singularly fine specimens of military architecture, bears evident marks of being of the age of Edward III.

Let us imagine ourselves citizens of York four centuries and a half ago, and desirous of taking a general view of the city. We will embark in the ferry-boat at St. Leonard’s landing near the Water-tower, and cross the river to the tower of North-street Postern, at this period called Barker-tower. On our passage we shall not fail to observe the church and conventual buildings of the Friars Eremites, commonly called the ‘Austyn Freres,’ occupying a considerable space on the brink of the river

<sup>1</sup> “Account of the Abbey of St. Mary, York,” by the Rev. C. Wellbeloved. *Vetusta Mon.* Vol. V.

<sup>2</sup> Monkgate Bar is the old name. It is now usually called Monk Bar.

between St. Leonard's hill and the Common-hall; or as Leland quaintly describes it "betwixt the tower on Ouse-ripe and Ouse bridge." From Barker-tower we will ascend to the terrace walk of the city wall, and proceed at once to the angular bastion at the highest part of the ramparts, (that which forms a striking point from these grounds,) and through an embrasure in one of its northerly faces what a magnificent *coup d'œil* is afforded us!

Looking across the river, the abbey church and the whole of the abbatial buildings within the inclosure of St. Mary's—the hospital and church of St. Leonard's—and in the back ground, the Minster itself—form an assemblage of picturesque and architectural objects of surpassing beauty and grandeur. Having sated our eyes with gazing on this scene, we will turn from the bastion; and immediately below the walls, the Dominican monastery of the Friars Preachers<sup>1</sup> to whom this scite was granted by King Henry III. will engage our attention for a few moments. Passing onwards to the city-wall on the easterly side of the gate or bar called Mickel-hythe, with its "lofty turrets and handsome battlements," we stop to admire the extensive monastic buildings, stately church, and luxurious gardens belonging to the establishment of Benedictine Monks, called the Priory of the Holy Trinity, extending from the ramparts to Trinity-lane, and from the street of Micklegate to the precincts of the antient prison or *vetus ballium* belonging to the Archbishops of York, which is the next object to attract our notice. Having passed its gloomy dungeons we find ourselves on the summit of an artificial mount raised within the circuit of the walls, commanding an extensive view of the river and the various objects on its left or northerly bank, the most conspicuous of which is the royal castle of the county of York with its embattled walls and numerous towers, and on an artificial hill of corresponding magnitude to that on which we now stand, rises pre-eminent in beauty and picturesque effect, the fortress or citadel which afterwards acquired the name of Clifford's Tower. Under the shelter and protection of this tower, and occupying a large space between it and the river, is the important establish-

<sup>1</sup> The scite of this monastery is now occupied by the Railway station.

ment of monks of the order of St. Francis commonly called the Friars Minors, or *Freres Menours*, which, according to Froissart, was upon so extensive and princely a scale as to be capable of accommodating King Edward III. and his queen-mother who at the same time held their separate courts within its walls. Still retaining our position upon the hill above the *vetus ballium*, we shall perceive that besides the Castle and the Friars Minors, several other objects, although of less importance, are comprised in our prospect. Below us, on the same side of the river, we see the Nunnery of St. Clement founded by King Henry I., and on the opposite shore, near to the sally-port on the western side of the castle-wall, are the house and chapel of the Guild of St. George, with the water-milns adjoining, which formerly belonged to the order of Knights Templars. Carrying our view a little further we may discern the Priory of Gilbertine Monks, dedicated to St. Andrew, standing on the opposite bank of the river Foss, near its confluence with the Ouse.<sup>1</sup>

Turning our faces towards the West, we shall see emerging from the general mass of the buildings of the city, the innumerable spires and towers of the parochial churches, and other public edifices, in every direction, presenting a wonderful variety of form and structure.

Descending from this eminence, and proceeding through Skeldergate, we arrive at Ouse-bridge, where are several objects of curiosity and interest. The chantry chapel dedicated to St. William, an exquisite specimen of Anglo-Norman architecture; and adjoining to it, or under the same roof, the courts of law and justice, and the municipal hall; and beneath these the Kid-cote or prison for criminals and other offenders: the fronts of all these buildings and the bridge itself being covered and choked up with clusters of shops in every part. Passing, not without due reverence, the Cross<sup>2</sup> erected on the summit of the

<sup>1</sup> Of the Nunnery of St. Clement, or the Priory of St. Andrew, scarcely a vestige remains to show where they stood, but a solitary shield bearing the cross of the chivalric St. George, sculptured in stone, still marks the entrance to the religious guild of which he was the patron saint.

<sup>2</sup> "*A cruce super pontem Use.*" Document dated 1380.

bridge, we soon find ourselves on the eastern side of the river, threading the narrow streets of a closely built and thickly peopled city.

And now, having concluded our rapid survey, may I presume to ask whether enough has not been said to justify us in believing that at the period in question, the city of York was inhabited by a numerous, industrious, and wealthy community? It might be absurd to compare her condition at the close of the 14th century with that of London, or of any of the great commercial cities of Italy which had then attained their highest pitch of grandeur and prosperity. Probably she had no pretension to be put upon a level at this period either as to extent or population, commercial importance or architectural beauty, with Genoa or Pisa, Milan or Florence; but it will not perhaps be denied that some grounds have been advanced for supporting her claim to be placed in a much higher position than has yet been assigned to her by any writers of the history of those times.

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*April 6th.* Dr. GOLDIE, V. P., in the Chair.

John Bell, Esq., M.P. of Thirsk, and the Rev. Chas. Hawkins, Canon Residentiary of York, were elected Subscribing Members.

The following additions made to the Museum, &c., since the previous Meeting, were announced by the Secretary.

*By Donation.*

From Randall Hatfeild, Esq., two fine examples of the Brain Coral (*Meandrina cerebriiformis*), and a large piece of double-refracting Spar.

From the Rev. G. R. Read, (Sutton-on-Derwent,) two very remarkable Sponges.

From William Rudston Read, Esq., his entire collection of British Birds' Eggs, with the Cabinet, and a Skin of the Glaucous Gull, from Iceland.

From Edward Wilson, Esq., (Lydstip House, near Tenby,) six Skins of Birds, new to the collection, from New Grenada.

From Dr. Lee, (Hartwell House, Aylesbury,) two Skins of Birds, new to the collection.

From William Moberley, Esq., specimen of Wood, from the Lias, at Sands-end, near Whitby.

From J. W. Whittell, Esq., a Lias species of *Plagiostoma*, from the railway cutting at Upper Helmsley.

From Mrs. Barker, a specimen of the little Woodpecker.

From Mr. Tesseyman, of Scarboro', Eggs of the Penguin, found in guano, at Ichaboe.

From John Wood, Esq. (London), sixty packets of Seeds, sent out by the Horticultural Society of London.

From Joseph Dent, Esq., High Sheriff of the County, Monumental Stone of the Roman Standard-bearer, L. DVCCIVS RVRFINVS. (See page 42.)

From the Rev. C. Sykes, a Northumberland Styca of Ethelred, one of a hoard lately discovered at Ulleskelf, near Tadcaster.

From W. Rudston Read, Esq., a small brass Coin, probably British.

From Mr. Cluderay, a Balloting Box for the use of the Society.

From Mr. H. Chapman, a small Roman earthen vessel, found in the excavations now in progress at the top of one of Severus's Hills.

From Edwin Smith, Esq., a defaced Roman coin from the same spot.

From Randall Hatfeild, Esq., a splendid Anatomical Work, in 4 vols. elephant folio, plates, and 4 vols. quarto, text, entitled "*Icones Anatomicæ ex optimis neotericorum operibus summa diligentia depromptæ et collectæ opera et studio Leopoldi Marci Antonii et Floriani Caldani, Venetiis, 1801—13* ; and a German Manual of the art of Manufacturing Iron, in 4 vols. 8vo. Berlin, 1827.

From Thomas Meynell, Jun., Esq., "Select Remains of the learned John Ray, with his Life, by the late William Derham, D. D.;" London, 1760 ; and "the Historie of Plants," trans-

lated from the Dutch of D. Rembert Dodoens, by John Lite, 1578.

From T. W. Wilson, Esq., the "York Herald," Nos. 1 to 157, (1790 to 1792), half bound, in one volume, folio.

From Edward Charlesworth, Esq., No. 2 of The London Geological Journal (Duplicate.)

*By Purchase.*

A specimen of the Black Swan, from Australia.

From the Ray Society, "Burmeister on the Organization, &c., of Trilobites,"—"Nudibranchiate Mollusca," by Messrs. Alder and Hancock, part 3.

The CHAIRMAN, after remarking upon the value of the donations, announced to the meeting that F. J. Copsie, Esq., lately deceased, one of the earliest members and warmest supporters of the society, had by will bequeathed to it a legacy of £100.

The following letter from Chas. Newton, Esq., of the British Museum, addressed to John Phillips, Esq., was then read:—

British Museum, March 13, 1847.

My Dear Sir,—

As you are good enough to give me an opportunity of addressing the Members of the Yorkshire Philosophical Society once more on the subject of British and Roman antiquities in this county, I will, in the first place, briefly recapitulate what I stated in my Memoir at the Meeting of the Archæological Institute. On that occasion I pointed out that by a series of dated monuments, the occupation of Yorkshire by the Romans from the time of Domitian to the third century, A. D. was satisfactorily proved, and that the extent and permanence of that occupation was further shewn by the number and importance of the Roman roads, camps, and other military works.

That while the Roman population was gathered together in large towns, placed so as to command the navigable rivers,

mines, and most fertile parts of the country, and to protect the two great lines of communication from Lancashire to the eastern coast, and from north to south, the Britons appear to have retreated to the high ground on the east side of the county, where we trace their presence by the barrows, camps, and other remains of the districts about Whitby, Scarborough, and Malton.

After having stated the general evidence to be deduced from the permanent British and Roman remains, such as camps, roads, entrenchments, barrows, architectural remains, I took a brief survey of such other antiquities of the same early period as I had ascertained to have been from time to time discovered in Yorkshire, such as weapons, ornaments, coins, pottery, &c.

Of such objects there has not yet been collected together in one place a number sufficient to enable us to form extensive generalizations; but we may see in the Roman antiquities, evidence rather of a military settlement than of a highly civilized province, such as we may suppose Gaul and Spain to have been; while in the British remains may be traced that transition from an age of stone to an age of bronze, from an age antecedent to Roman civilization to an age subsequent to it, which is much more strongly marked where the evidence is more abundant and admits of more complete classification.

Such were the general and obvious inductions from the evidence I had got together. Much remained for more systematic research carried on with more leisure.

I pointed out that many lines of Roman roads had never been duly investigated; that the Roman towns in Antoninus, Ptolemy, and the Notitia were not all satisfactorily identified, notwithstanding the labours and acumen of successive topographers; that there existed in different parts of the county vast anomalous earthworks, such as those at Stanwick, at Kirklington, on Seamer Moor near Scarborough, on Settrington Wold, near Millington, and those at Wincobank, Mexborough, and other places in the southern part of the county, entrenchments of which the purpose is unknown, and which we cannot assign with certainty to any definite race or period; that in the immediate



vicinity of some of these were groups of barrows probably connected with them, but the contents of which have never been examined ; and that there have been discovered in this county many antiquities of not less uncertain attribution in regard to race and period, and only to be explained by a comparison with many similar specimens.

Such was the brief sketch of the subject which I drew up from the valuable information supplied to me by the kindness of correspondents in the county, from the notices in topographical works, and from the evidence of such antiquities found in Yorkshire as I was able personally to examine.

This introductory Memoir, with an accompanying Map, will shortly be published in the Volume of Proceedings of the Institute at York ; but to carry out fully the inquiry I have commenced, there will be required—

1. An accurate examination of the lines of Roman roads throughout the county, before these remains are finally effaced by the plough.

2. Plans of all the camps and entrenchments, with sections of their earthworks, so as to enable us to classify them according to the varieties in their form and disposition.

3. A systematic excavation of barrows where they occur in groups, and in apparent relation to earthworks.

4. An accurate registration of all future discoveries of British and Roman remains throughout the county, carried on by an organized correspondence.

5. The permanent collection into one Museum generally accessible, of all antiquities so found, and their classification according to periods and races.

The two first of these desiderata will, I trust, be soon supplied by the researches of the Ordnance Surveyors.

The plan of excavation I hope to see directed by the Yorkshire Philosophical Society, when a general fund for such a purpose shall have been raised.

The registration of discoveries may be carried on by a number of persons resident in the county, each being responsible for a particular district. The record would be most clearly kept on

a skeleton map of the district traced from Teesdale's larger map, the remains of each race being inscribed in ink of a different colour. From time to time returns should be made from each district, and registered on a map of the whole county, preserved in some central spot like the Museum at York.

The permanent assemblage in one collection of all antiquities thus found is as essential to the advancement of Archæology, as a scientific arrangement of fossils is to Geology: in the latter study the self-denying liberality of private collectors has done much for the formation of public Museums, and it is hoped that archæologists will not be less mindful of the true interests of knowledge by contributing antiquities to one common stock, instead of isolating specimens, prized because rare, but of no real value unless generally accessible for purposes of comparison and combination.

If the suggestions here offered be thought worthy to be put into execution, I should hope that a very few years of survey, registration, and classification, would lead to a far more accurate knowledge not only of the condition of British and Roman Yorkshire, but of the whole British race before and after the Roman conquest.

It is surely not an uninteresting or trifling labour to seek to know what was the precise social condition of our savage ancestors; whether at the time of the Roman invasion, the hunter, the shepherd, and the agricultural mode of life prevailed among them simultaneously, in what relative proportions in the whole population, and according to what differences of climate and soil; what progress they had made towards permanent social improvement at the moment of contact with exotic civilization; what they gained and what they lost from their conquerors; how far the benefits of social order maintained by the strong arm of the empire compensated for the loss of independence and the corruption of the manly virtue of the savage; what tribes retained their native ideas and mode of life longest, whether through greater natural strength of character, or from the circumstance of inhabiting a more inaccessible district.

It is by the patient examination of the military works, dwellings, places of sepulture, and works of art of the primeval period,

that we must seek the answer to such inquiries as these : it is by the patient accumulation of facts, and by their interpretation according to the sound laws of archæological criticism, not through the premature speculations and misdirected erudition of the antiquaries of the last century, that we can hope to supply those details which are wanting to complete the delineation of ancient British life.

I remain, my dear Sir,

Yours very truly,

CHARLES NEWTON.

JOHN PHILLIPS, Esq., &c., &c.

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The following paper was then read by Mr. Charlesworth, "*on the occurrence near Tadcaster of a specimen of Larus Rossii, (Ross's Rosy Gull), one of the rarest known birds and new to British Ornithology.*"

A short time since I was shewn by Mr. Graham, (the very excellent bird-preserver in Spurriergate,) a beautiful Gull which had been shot near Tadcaster, and its characters not agreeing with those of any species appearing in Mr. Yarrell's History of British Birds, with the permission of its owner, and of William Milner, Esq., of Nun Appleton, to whom the opportunity of purchasing the specimen had been promised, I sent it to Mr. Yarrell, stating at the same time, that if the Gull were new or rare as a British Bird, any information upon the subject would be highly acceptable for publication in the "Proceedings" of this Society. From Mr. Yarrell's acknowledgment\* of the receipt of the Bird, and obliging reply to my inquiries, I make the following extract :—

"The sight of the Gull enables me to send you so many references to this species that any remarks from me will be superfluous, beyond noticing that, as far as I am aware, it is not only a very rare bird, but also quite new to our British Catalogue. This last remark may require explanation, because

\* Dated Ryder-street, St. James's, March 23rd, 1847.

Mr. William Macgillivray includes this species in his Manual of British Ornithology, with the remark that "this species has once occurred in Ireland."—Vol ii. p. 254.

"I remember some years ago to have seen a notice in print, that this bird had been once taken in Ireland, but from the countries visited or known to the writer of that notice, and from the circumstance that this species had only occurred in high northern latitudes, I came to the conclusion that the printer had made a mistake of *one* letter, and that for *Ireland* we ought to read *Iceland*. Add to this, that the Birds of Ireland have been carefully worked-out by Mr. Thompson of Belfast, who is one of the best authorities for Irish Birds, and this species is not included by him in his Fauna of Ireland."

The following are the references to this species, which Mr. Yarrell is so good as to supply at the end of his letter.

*Larus Rossii.*

Ross's Rosy Gull—Cuneate-tailed Gull—Wedge-tailed G. &c., first noticed by Dr. Richardson in a paper read by the Wernerian Society, in January, 1824.

Fauna Boreali Americana, Swains. and Rich., 1831..page 427. sp. 192.

Nuttall's Man. Ornith. of U. S. and Canada, 1834...page 295 and 6.

Audubon's Ornith. Biog. 1839 ..... vol. 5. page 324.

„ Synopsis of Birds of N. A. 1839 .....page 323. sp. 442.

Macgillivray's Man. of Brit. Ornith. 1842. vol. 2. page 252.

Audubon's Birds of Amer. 1844.....vol. 7. page 296.

Richardson's App. to Parry's Second Voyage .....page 359.

Ross's App. to Parry's Polar Voyage .....page 195.

Appendix to Ross's Last Voyage, 1835 .....page 36. sp. 26.

Wilson's Illust. Zool. vol. 1. pl. 8.

Jardine and Selby Orn. Illust. p. 1. plate 14.

See also Gray and Mitchell's Genera of Birds, part 19, Nov. 1845, for a figure on plate 180 of the head and form of the tail.

The Fauna Boreali Americana, not being accessible to me, I consulted Audubon's American Ornithological Biography, of which there is a copy in the library of the Society. Under the head of *Larus Rossii*, Audubon remarks that he has never met with "this beautiful little Gull," and that he is conse-

quently obliged to quote the following description from Dr. Richardson's work :—

“Cuneate-tailed Gull, with a pearl-grey mantle. Wings longer than the cuneiform tail. The outer web of the first tail-feather blackish; a slender black bill, tarsi an inch long, and, as well as the feet, vermilion red.

“Two specimens of this Gull were killed on the coast of Melville Peninsula, on Sir Edward Parry's second voyage, one of which is preserved in the Museum of the University of Edinburgh, and the other was presented to Joseph Sabine, Esq. No other examples are known to exist in collections; but Commander Ross, in his Zoological Appendix to Sir Edward Parry's narrative of his most adventurous boat-voyage towards the Pole, relates that several were seen during the journey over the ice north of Spitzbergen, and that Lieutenant Forster also found the species in Waygait Straits, which is probably one of its breeding places. It is to Commander Ross, who killed the first specimen which was obtained, that the species is dedicated, as a tribute for his unwearied exertions in the promotion of natural history on the late Arctic voyages, in all of which he bore a part. Of the peculiar habits or winter retreat of this species nothing is known.

“Description of a specimen killed, June 1823, at Alagnak, Melville Peninsula, Lat.  $69\frac{1}{4}^{\circ}$  N.

“Colour.—Scapulars, inter-scapulars, and both surfaces of the wings clear pearl grey; outer web of the first quill blackish-brown to its tip, which is grey; tips of the scapulars and lesser quills whitish. Some small feathers near the eye, and a collar round the middle of the neck pitch black. Rest of the plumage white, the neck above and the whole under plumage deeply tinged with peach-blossom-red in recent specimens. Bill black; its rictus and the edges of the eyelids reddish-orange. Legs and feet vermilion-red; nails blackish.

“Form.—Bill slender, weak, with a scarcely perceptible salient angle beneath; the upper mandible slightly arched and compressed towards the point; the commissure slightly curved at the tip. Wings an inch longer than the decidedly cuneiform tail, of which the central feathers are an inch longer than the

lateral. Tarsi rather stout; the thumb very distinct, armed with a nail as large as that of the outer toe.

“The other specimen killed by Mr. Sherer a few days later, differs only in the first primary coverts having the same dark colour with the outer web of the first primary itself.”

It would appear that the fate of the specimen of *Larus Rossii*, given to Mr. Sabine, is not known, and that none of our public Museums have since been able to obtain examples, for Mr. Mitchell, the Secretary of the Zoological Society, and joint-author with Mr. G. R. Gray, of the beautiful work now publishing on the genera of Birds, in writing to me upon the subject remarks, “The only specimen I could hear of when I wanted it [*Larus Rossii*] for the “Genera of Birds” was one at Edinburgh, from which I obtained a drawing.”

Being anxious to know upon what evidence Professor Macgillivray had inserted *Larus Rossii*, in his Manual of British Ornithology, I wrote to this gentleman for information upon the point, but at present no reply to my inquiry has reached me. Messrs. Gray and Mitchell adopt for this species the subgeneric name *Rhodostethia*, with the following characters:—

*RHODOSTETHIA, Macgillivray.*

“*Bill* short, slender, straight, with the culmen straight at the base, and curved at the tip, the sides compressed, the gonys short, advancing upwards, and scarcely angulated; the nostrils lateral and submedial. *Wings* lengthened and pointed, with the first quill the longest. *Tail* moderate and wedge-shaped. *Tarsi* strong, as long as the middle toe. *Toes* moderate, the anterior ones united by a full web; the hind toe short and elevated.”

Mr. Yarrell, in a subsequent letter, put me in possession of the following notes which he had taken of the winter plumage, &c., of this specimen.\*

\* Its capture is authenticated in the following memorandum, received from Henry Milner, Esq. (Nun Appleton):—“Ross’s Gull was killed by Horner, Lord Howden’s head keeper, in February last (1847), in a ploughed field, near the hamlet of Milford cum Kirby, in the parish of Kirby: its flight resembled according to Horner’s account, the flight of any other gull, and it did not seem at all shy.”

“Beak black ; eyes with a narrow line of dark feathers around them ; head, whole of the neck and breast delicate rose colour, mixed or clouded with French grey ; wings and back French grey ; outer web of the first primary only, dark grey ; the shafts bluish grey ; upper tail, coverts ; tail feathers, and all the under surface of the body, delicate rose-colour ; under surface of the wings, French grey ; the shafts of the primaries, white ; central pair of tail feathers the longest ; the remainder graduated, forming a wedge-shaped tail ; legs, toes, and interdigital membranes, vermillion ; the claws black. Whole length of the bird about 14 inches ; wing, from the anterior bird to the end of the first primary, which is the longest,  $10\frac{1}{2}$  ; beak, from the point to the feathers on the top, three-fourths of an inch ; length of the tarsus,  $1\frac{1}{4}$ .”

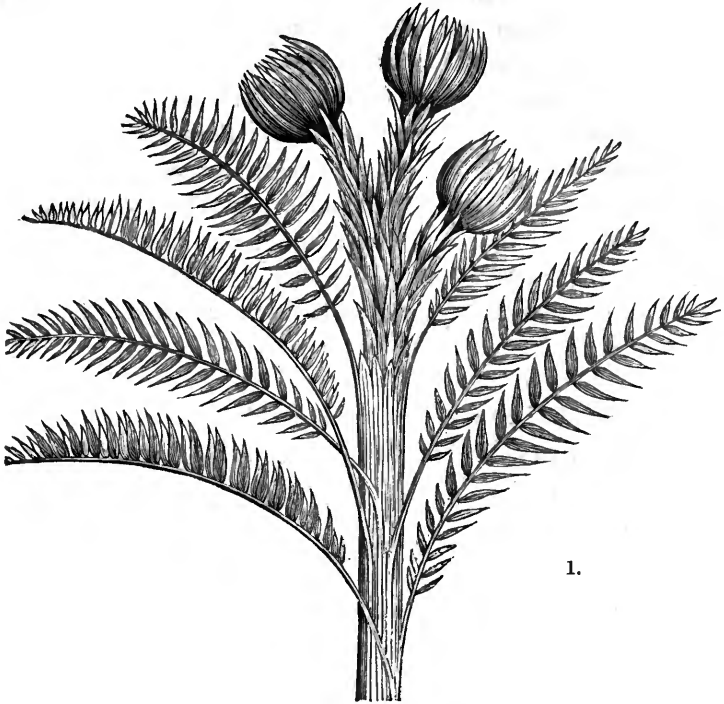
A communication was then read, entitled “*Notice of Zamia Gigas*,” by JAMES YATES, Esq., M. A., F. R. S., &c.

The fossil plant, of which I have attempted a re-construction in the drawing that accompanies this paper, (fig. 1.) is found at several places along the coast of Yorkshire between Staithes and Scarborough. It always occurs in the shale or sandstone belonging to the Lower Oolite, or, to speak more precisely, in the “Lower Sandstone, Shale, and Coal, No. 13,” of Professor Phillips’s arrangement.\* Very fine specimens of the leaves are found at Saltwick, near Whitby. But by far the most remarkable locality for the occurrence both of leaves, and of the various parts supposed to belong to the inflorescence, is a spot of very limited extent about a mile to the N. W. of Runswick. I have been told, that the plant also appears between this spot and Staithes.

The attention of geologists was first directed to the leaves, which are of large size, being sometimes 18 inches or more in length. They are pinnate and cycadiform, and have evidently been characterised by the rigidity which belongs to the recent Cycadææ. On comparing the two recent Linnean genera, which constitute this Natural Order, viz., *Cycas* and *Zamia*, there can

\* *Geology of Yorkshire*, Vol. I. p p. 33, 38, 39, 95, 98.

be no hesitation in referring the fossil leaves to the latter rather than to the former. The leaflet of *Cycas* is distinguished by a strong nervure which runs along the middle; that of *Zamia*



Restoration of *Zamia Gigas*.

has no such strong nervure along the middle, but a considerable number of fine nervures, which proceed from the base of the leaflet, then run parallel to one another, and terminate, not at the apex, as is the case with most other plants, but along the margin of the leaflet. This remarkable peculiarity may be observed most distinctly in the leaflets of the fossil. Hence it was referred to the genus *Zamia*; and the species, found so abundantly at Runswick, was called by M. Adolphe Brongniart, *Zamia Mantellii*. He mentions it under this name, together with many other species, in his *Prodrome d'une Histoire des Végétaux Fossiles*, published in 1828. Almost coincidentally Professor Phillips employed for these plants the generic denomination



of *Cycadites*, in compliance probably with the authority of Brown and Buckland, and he has figured a portion of a frond under the name of *Cycadites lanceolatus*\*, which appears to be identical with the *Zamia Mantellii* of Brongniart, or *Z. Gigas* of Lindley. Several years afterwards it received from our countryman, Dr. Lindley, who published the figure of part of a frond in the *Fossil Flora of Great Britain* (I. 165), the name of *Zamia Gigas*. Hence it has been commonly known by this name among us, although, I confess, the specific name *Gigas* does not seem to me appropriate, since the whole plant probably did not exceed three feet in height, being of the ordinary dimensions of our recent species. Besides these figures of the leaves, representations of various parts supposed to belong to the inflorescence were published by the Rev. Dr. Young of Whitby, in his *Geological Survey of the Yorkshire Coast*, after drawings by Mr. Bird.

The occurrence of cycadiform plants in the Yorkshire Oolite derives a high degree of interest from the fact, that stems of plants belonging to the same natural order are found in the Oolite on the southern shores of our island. These have been described and illustrated in a most instructive manner by Professor Buckland in the *Geological Transactions*, (*New Series*, vol. II. 1828,) and in his *Bridgewater Treatise*, (vol. I. p. 496, 503.) We are, however, deprived of the anticipated satisfaction of connecting these facts together by the consideration that, whilst the cycadiform stems of the Portland Oolite are destitute of leaves, on the other hand the leaves of the Yorkshire Oolite are not connected with stems at all resembling those of the south of England.

The pinnate leaves of the fossil *Zamia* of the Yorkshire coast have unquestionably a very close resemblance to the leaves of a recent *Zamia*. But here the analogy seems to cease. The stem of the fossil does not resemble the stem, or the mode of growth, of any recent species of *Zamia*, that I have ever seen. The fossil stem is much smaller in diameter and more elongated, and the leaves are placed much more widely apart than in the recent

\* *Geology of Yorkshire*, I. p. 154, 168. Plate X. Fig. 3.

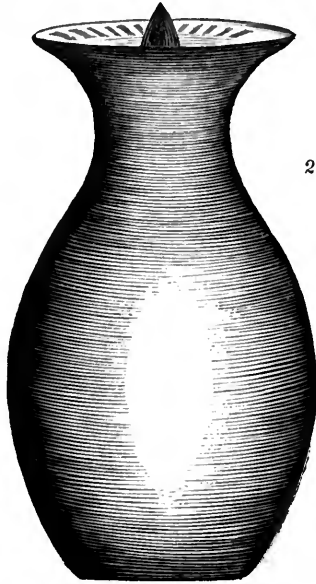
species ; nor have I been able to discover any trace of those radiating plates, which both in the recent Cycadeæ and in the Portland specimens are perfectly manifest to the naked eye.

But a still greater difficulty presents itself, to which I beg to direct the attention of any geologists or botanists, who may have the opportunity of aiding in the study of this fossil. My reconstruction of the plant is founded upon the examination of about 300 specimens, some of them found by me at Runswick, others preserved in various Museums, both public and private. I think there can be no doubt, that the appearance, both of the lower plant, consisting of the stem with the leaves proceeding from it, and of the upper part, consisting of a branched fruit-stalk with its inflorescence, was such as I now exhibit in the drawing. But the evidence, though very considerable and sufficient to produce conviction in ordinary cases, is not so complete as might be desired in reference to the question whether the upper and the lower part belonged to the same plant. The heads or flowers of the upper part do not at all resemble the flowers of Cycadeæ, either in their external form or in their internal structure. M. Brongniart long ago pronounced the opinion, that notwithstanding the exact resemblance of the fossil leaves to those of the recent *Zamia*, the fructification may have been different.\* Nevertheless, judging, as we must do in the absence of other evidence, from the analogy of the living plant, these fossil leaves would have induced us to expect a flower in the form of a cone or a catkin. But we perceive nothing of the kind. The head of the *Zamia Gigas*, found at Runswick, consists of a considerable number of scales, resembling sepals, petals, or perhaps dilated stamens, all growing from the top of the fruit-stalk, and overlapping one another. They surround an oval or pyriform cavity, which is dilated at the top, and which appears to have contained the germen. This, so far as I

\* Comparing the leaves of *Z. Mantellii* to those of the recent *Zamia*, he says (*Prodrome d'une Histoire, &c.*) "Cette identité est telle que nous ne pouvons pas nous empêcher de placer ces plantes dans le genre *Zamia*, tout en établissant qu'il étoit possible, que ces plantes, tout-à-fait semblables par leurs feuilles, fussent différentes par leur fructification."

can judge from numerous specimens, which I have examined in various states of destruction and decay, was of a form, which may be compared to the capsule of a poppy, or the berry of a nymphæa. See the accompanying drawing (fig. 2.)

I should be glad of any further information or evidence regarding this part of the subject; but the great question is, whether this flower or fruit belonged to the stem and leaves of *Zamia Gigas*. They are found together at Runswick in great quantities, and no other fruit or flower presents itself, which can be supposed to have belonged to the stem and leaves. In one specimen also, but



only in one, I saw, as it appeared to me, a leaf-stalk in connection with a fruit-stalk, both proceeding from the same stem. Moreover, the stems, from which the leaves grow, and those which bear the fruit, have a strong resemblance to one another, being striated in the same manner outwardly, and filled within with the same brown amorphous friable substance, which seems to have been derived from the decomposition of pith. It is probable, therefore, that the universal belief of the workmen and fossilists of Whitby may be correct, viz., that all the variety of specimens, which they call *Zamias*, belonged to one and the same plant. But on so essential a point it is desirable to have the best possible evidence.

I conclude these remarks with observing, that the whole collection of specimens, which I have been able to make, amounting to about 130, will be submitted to the judgment of

M. Adolphe Brongniart. Although they seem to me to contain a mass of very curious evidence, into the details of which I do not enter, but which will, I trust, enable that distinguished botanist to assign to this plant its proper place in the system of vegetables, yet I shall be extremely gratified and obliged by any further assistance, which I may be able to obtain in the investigation of the subject.

Norton Hall, Derbyshire,  
April 2nd, 1847.

Mr. Wellbeloved, as Curator of the Antiquarian department of the Museum, congratulated the Members upon having received from Joseph Dent, Esq., the High Sheriff, the very valuable present of the monumental stone, erected to the memory of the Roman standard-bearer Lucius Duccius Ruffinus, almost the only existing relic of Roman times of that kind known to have been discovered in York, not already in the possession of the Yorkshire Philosophical Society. A brief history of the stone, from Horsley and Drake, was then given, and some peculiarities in the inscription pointed out and explained.

A small fictile vessel, nearly perfect, and a coin much defaced, both Roman, having been presented, the former by Mr. Chapman, the latter by Edwin Smith, Esq., as lately found near the top of one of Severus' hills, on which the Waterworks' Company are making preparations for a reservoir, Mr. Wellbeloved observed, that supposing these relics to have been found there, which was by no means certain, it was not to be imagined that such a circumstance gave any countenance to the old fable of the artificial origin of these hills, or cast any doubt upon the opinion of Professor Phillips, that "they are reliques of great geological interest, marks of ancient watery forces in the vale of York." Severus found them there when he came to York, and left them certainly as he found them—there being "no mark of any distinct earthwork, modifying even slightly the form left by nature."\*

\* See "Eburacum," by the Rev. C. Wellbeloved, page 113, and pl. xiii.

*May 4th.* Dr. GOLDIE, V. P., in the Chair.

John Wilson, Esq., (Solicitor,) and William Webster, Esq., both of York, were elected Subscribing Members.

The following additions were announced to the Museum and Library.

*By Donation.*

From the Rev. G. R. Read, two specimens of fan-coral, from the East Indies.

From John Wood, Esq., a Roman or Roman-British vase, found about four feet below the surface at Scoreby.

From H. Tuke Holmes, Esq., a large fragment of a Roman (Samian) bowl, found in York, and belonging to the late F. J. Copsie, Esq.

From Dr. Goldie, a Saxon sceatta, according to Ruding, of Egbert, King of Kent, A. D. 665-674; but according to Hawkins, of Eadbert, King of Northumbria, 737-758.

From F. B. Hacket, Esq., a coin of Gallienus, third brass, found in the Garden of the donor, Bootham.

From the Directors of the East India Company, per Dr. Forbes Royle, twelve species of Orchideæ, from the Botanic Garden at Calcutta.

From Sir Roderick Impey Murchison (the Author), "On the Silurian Rocks of part of Sweden," extracted from the Journal of the Geological Society; and "A brief review of the Classification of the Sedimentary Rocks of Cornwall," from the Transactions of the Royal Geological Society of Cornwall.

From the Royal Cornwall Polytechnic Society, their Fourteenth Annual Report.

From Giles Munby, Esq. (the author), "Flore de l'Algérie ou Catalogue des Plantes indigènes du Royaume d'Alger, accompagné des descriptions de quelques espèces nouvelles ou peu connues, par G. Munby, Colon d'Alger," Paris, 8vo., 1847.

*By Purchase.*

The Silurian System, founded on geological researches in the counties of Salop, Hereford, Radnor, Montgomery, Caermarthen, Brecon, Pembroke, Monmouth, Gloucester, Worcester, and Stafford, with descriptions of the coal fields and overlying formations. By Roderick Impey Murchison, F.R.S., F.L.S. 2 vols. and separate map, 4to. London, 1839.

Odontography, or a Treatise on the Comparative Anatomy of the Teeth: their Physiological relations, mode of development, and microscopic structure in the vertebrate animals, illustrated by upwards of 150 plates. By Richard Owen, F.R.S., &c. London, 1841, royal 8vo.

Memoirs of Ichthyosauri and Plesiosauri, with numerous Plates, by Thomas Hawkins, F. G. S., London, 1834; and the book of the Great Sea Dragons, by the same, 1840; bound together in one vol. folio.

A Conchological Manual, by G. B. Sowerby, Jun., illustrated by upwards of five hundred figures, (coloured copy), 1 vol. 8vo., London, 1839.

A History of British Birds, by William Yarrell, F. L. S., illustrated by 520 wood engravings; 3 vols. and supplement, 8vo. London, 1843.

A Manual of the Land and Fresh-Water Shells of the British Islands, with figures of each of the kinds, by William Turton; a new edition, thoroughly revised and much enlarged, by John Edward Gray, F.R.S., &c., 8vo., London, 1840.

Nomenclator Zoologicus continens Nomina Systematica Generum Animalium tam viventium quam fossilium, secundum ordinem alphabeticum disposita, adjectis auctoribus, libris in quibus reperiuntur, anno editionis, etymologia, et familiis ad quas pertinent, in variis classibus, Auctore L. Agassiz:—

Fasciculus I. continens Mammalia, Echinodermata et Acalephas;

II. Aves;

III. et IV. Crustacea et Vermes, i. e. Entozoa, Turbellaria et Annulata; Hemiptera et Infusoria; Polygastrica et Rotatoria;

V. Neuroptera, Orthoptera et Polypos ;

VI. Reptilia ;

VII. et VIII. Pisces, et Hymenoptera ;

Monographies D'Echinodermes vivans et Fossiles, par  
L. Agassiz :—

1. Livraison, contenant Les Salénies ;

2. Les Scutelles ;

3. Les Galérites et Les Dysaster, par E. Desor ;

4. L'Anatomie du genre Echinus, par G. Valentin. (avec  
un Atlas de 8 planches in folio, et 1 pl. in 4to.)

Description des Echinodermes Fossiles de la Suisse ; par  
L. Agassiz :—

Première partie, Spatangoides et Clypéastroides ; seconde  
partie, Cidarides. 4to., Neuchatel, 1839.

Traité Elémentaire de Paléontologie ou Histoire Naturelle  
des Animaux Fossiles, par F. J. Pictet. 4 vols. 8vo., Paris, 1844.

Description des Coquilles et des Polypiers Fossiles des Ter-  
rains Tertiaires de la Belgique, par P. H. Nyst. 4to., Bruxelles,  
1844.

The Chairman stated that these valuable books on Natural  
History, had been purchased by the Council on very advantageous  
terms, and for practical purposes as well as for reference, consti-  
tuted a most desirable accession to the Library.

One of the specimens of brain-coral (*Meandrina*), presented  
at a former meeting by Randall Hatfield, Esq., was upon the  
table ; and Mr. Charlesworth stated that upon chipping away  
portions of the base so as display the interior, it was found to  
contain a colony of boring Mollusca, among which he had  
determined the following genera : *Lithodomus*, *Gastrochæna*  
(two species), *Petricola* (two species), *Modiola*, and *Arca*. Most  
of the above were so beautifully displayed in situ, that Mr. C.  
regarded the specimen as by far the most valuable and instruc-  
tive of the kind he had seen.

The following communication was then read from W. C.  
Williamson, Esq., entitled, "*On the scaly vegetable heads or*

*collars from Runswick Bay, supposed to belong to Zamia Gigas."*

Since the year 1833, I have attempted to elucidate the nature of the interesting vegetable bodies found in the oolite of the Yorkshire Coast, and supposed to belong to *Zamia Gigas*; and though it was my intention not to publish the conclusions I had formed, until I should have more completely worked-out the history of these curious fossils, I am induced to submit a few remarks to the Society, from having just perused the paper upon the subject by my friend Mr. Yates, published in the last number of the Society's Proceedings.

My attention was first drawn to these fossils by the figures in the first plate of the Geology of the Yorkshire Coast, by Messrs. Young and Bird. Soon afterwards my father was so fortunate as to collect some beautiful specimens at Runswick Bay, which he placed in my hands for examination; but unable to decide anything from these few isolated specimens, I visited the locality of their occurrence for the purpose of ascertaining what other vegetable remains were associated with them. The result was a satisfactory conclusion in my own mind that these heads or "collars," as I conceive they may more properly be designated, were part of the fructification of some Cycadean Plant.

On examining the rocks in which they occurred, I only found, in any abundance, the leaves of *Zamia Gigas*, of Lindley and Hutton—(*Zamia Mantellii* of Brongniart),—some stems of a Calamite, and fragments of Coniferous wood. Of these three, the "collars" must in all probability have belonged, *if to any*, either to the first or the last. To ascertain which required further examination.

I soon found specimens which established two or three material points in the inquiry.—First, that these curious bodies had been supported by a straight, scaly pedicle, around the upper part of which the curved scales constituting the head, or collar, were arranged like the petals of a flower.—Secondly, that a prolongation of this pedicle sometimes passed *through* the collar, forming its axis, and becoming much narrower



towards its upper part,—thirdly, that after passing completely through the circlet of scales, it again expanded in a funnel-shaped form, terminating superiorly in a well-defined circle, which had evidently articulated with, and supported, some additional appendage. The next thing to be ascertained was the nature of this appendage. Amongst a great variety of forms, two specimens came under my notice deserving especial attention. One of these was a scaly cone resembling the ordinary cones of a Cycadean plant. It had evidently been several inches long, and about an inch in diameter, consisting of a series of large rhomboidal scales. This specimen is in my own cabinet. The other (in the Scarborough Museum) is considerably larger than my own, and much more pyriform, being thickest at the base, and tapering to an obtuse point. It has evidently been more or less covered by leafy bracteas, and attached to a pedicle much narrower than itself, of which well-marked evidence exists at its thick extremity. These two specimens suggested to me the probability that the additional appendage, which had originally surmounted the upper part of my other examples, had been a *cone or spike of fructification*, and that the whole was a beautiful form of Cycadean inflorescence.

This is not the place to give detailed descriptions of the various specimens which led me to this conclusion ; and the necessity for so doing is less urgent, since I have placed in the hands of M. Adolphe Brongniart, drawings and specimens of the more remarkable examples that have come under my notice ; and I have no doubt but that when the attention of this distinguished Botanist is given to the subject, he will speedily clear up much that is now obscure and doubtful. At the same time I would refer to the accompanying *diagram*, as giving a rough idea of what I believe to have been the arrangement of the parts of fructification, as exhibited by a vertical section.

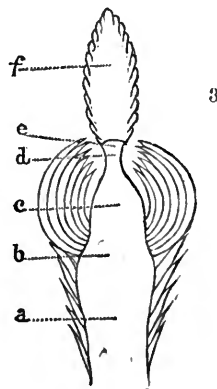


Fig. 3. *a.* represents the bracteated pedicle, the scales or bractæ of which have been obtuse, and somewhat elevated in the centre. In one of my specimens in which the pedicle is still surrounded by the collar, the upper part of the former is somewhat expanded just below its attachment to the latter.

At *b.*, in *some* specimens, there is a sudden contraction of the diameter of the prolonged pedicle. This is where it becomes part of the axis of the collar. At *c.* is a still further contraction, forming the main central axis of the collar, which is usually in a very decomposed state, constituting the "oval or pyriform cavity" of Mr. Yates, but which one or two specimens in the Scarborough Museum prove to have been a solid woody texture.

At *d.*, the axis suddenly contracts to a diameter not usually much more than half an inch in diameter, but soon expands again at *e.*, where in all the specimens that I have seen which are *perfectly developed*, it terminates in a well-defined circular margin, resembling that presented by the pedicle of a gourd, or any other fruit in which the foot-stalk is articulated to the base of the pericarp. From the lower part of this axis arises the incurved circle of scales, which I have denominated the "collar" for want of a better provisional name. In the majority of the specimens found, we observe no perforation, nor prolongation of the axis through the upper portion, but several exceedingly well-marked examples have been discovered (a beautiful one of which is in my own cabinet), proving beyond all doubt that this prolongation *does occur in some states of the plant*. From this I have inferred, that the "collar" was originally a scaly bud, enclosing and protecting the undeveloped germ. That as the fruit became more fully developed, it forced its way through the upper part of this bud, and, when completely ripened, the fruit or cone (*f*) was raised above the incurved tips of the scales, the latter forming literally a *collar* encircling the neck of the pedicle which supported the ripened fruit.

In the numerous examples which present no trace of having supported a superior appendage, we have, in all probability, specimens of the fruit-buds in an early stage, where the germ

has not yet been developed. Some time ago, Mr Yates shewed me a drawing of an interesting little specimen from the cabinet of Mr. Ripley of Whitby, which had dropped out from the centre of a large broken collar, and consisted of a small circle of elongated and nearly straight scales, shewing that in some instances the whole organism consisted of a mass of these scales, with very little of the woody axis in the centre, so clearly proved to exist in many other examples. This shews that the larger expansion of the axis is a consequence of the higher development of the plant; and it is singular that, with one exception, every specimen I have seen exhibiting this large development of the central axis, also carries along with it the proof that it has supported some additional organ, shewing apparently a connection between the two, and so far supporting my view; for, of course, as the germ expanded and escaped at the upper part of the bud, the increasing size of the fruit would be accompanied by an increase in the axis, which was to give it support, and to furnish it with nourishment during the ripening of its seeds.

That the "collar," in its matured condition, has been surmounted by *something*, is then certain, and that this appendage, whatever it was, has been apparently articulated to the top of the woody axis. There is then nothing in the scales of the collar, which can justify us in concluding that they have any relation to either "sepals, petals," or "dilated stamens," as suggested by Mr. Yates, or that the "oval or pyriform cavity," left by the decay of the woody axis, was the seat of the germ, except in a very young state, when the cavity in fact did not exist; and this even in a totally different sense to what is suggested by the allusion "to the capsule of a Poppy or the berry of a Nymphæa." Whether my naked cone, or the bracteated one in the Scarborough Museum, furnish us with the appendage necessary to complete the plant, is not yet certain. The rarity of these cones is what might be expected, if, as is probable, only a limited number of the trees were so far advanced as to furnish ripened fruit at the time of their being entombed.

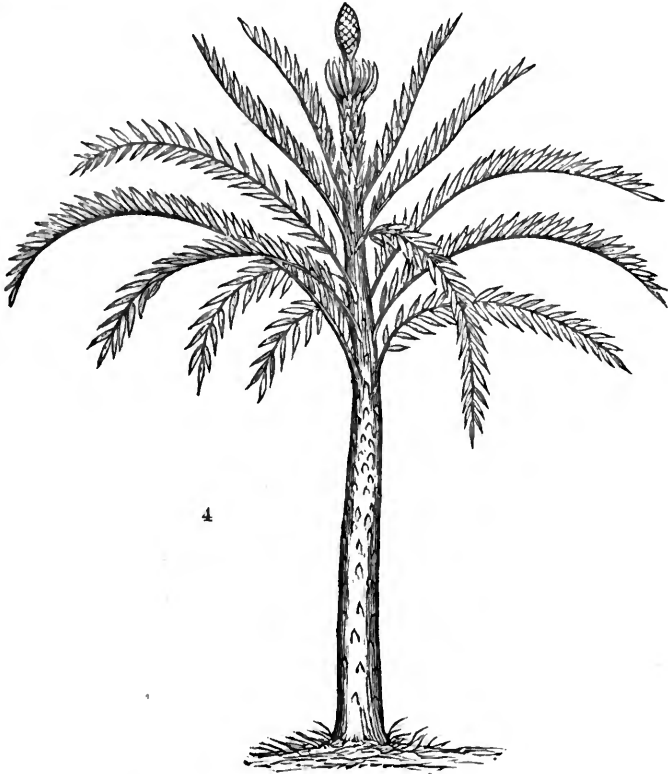
As, supposing these fossil "collars" to be Cycadean, and to be connected with the *fructification* of the plant, the missing

portion would most likely be a *cone*,—the form of fruit exhibited by recent Cycadeæ, it becomes probable that one of the above specimens is really the terminal portion wanted to complete the restoration of this part of our plant. Indeed as the Cycadeæ are diœceous, and as a considerable difference often exists between the male and female inflorescence, the males being in the form of *cones*, whilst the females may be either in the form of *cones*, or of a group of *contracted or undeveloped leaves*, it becomes possible that my specimen may be the *male* and the Scarboro' example, the *female fruit* or inflorescence of the same plant. This, however, is as yet uncertain.

Mr. Yates considers that the bracteated pedicle which supports each collar has been branched. His restoration represents three such branches, each being terminated by a fruit. This appearance I have never seen, and must confess myself to be very sceptical as to the probability of its correctness. The pedicles, which have come under my notice, have been quite straight; and I am too well aware, from long experience amongst fossil plants, of the danger arising from assuming connection, where there really may be only accidental juxta-position. One of the earliest specimens, found by my father at Runswick Bay, exhibited three of these heads, apparently having some connection with each other, branching from a central stem, and that stem a *calamite*!

I have here attempted a general re-construction of the plant according to the above views, (see fig. 4.) That it was not a short low plant, like the recent *Cycas revoluta*, and *Zamia horrida*, or the fossil *Mantelliæ*, from the Portland Dirt-bed, is apparently proved by a specimen which came into the hands of Mr. Yates, and which shews it to have been a plant of lax habit, instead of having crowded leaves. In all probability it has resembled in this respect the recent *Cycas circinalis*. Consequently, I am again obliged to differ from my esteemed friend, Mr. Yates, who thinks that “the whole plant probably did not exceed three feet in height;” whereas, I think it more probable, that like the recent species with which I have compared it, it may have been nearer thirty feet. I have measured *portions* of leaves only, which have been three feet long.

Throughout these remarks, I have connected these remarkable fossils with the Cycadean leaves, rather than with the Coniferous



*Zamia Gigas*, as restored by Mr. Williamson.

wood with which they are associated. Their very singular forms seem to present little in common with Coniferæ, whilst we can easily conceive of similar appendages being added to the solitary cones of the recent Cycadeoideæ. It will, however, be evident to the Society that very much remains to be accomplished before these questions can be definitely settled; and the investigation of the problem, the exact nature of the Runswick vegetable collars, and of the plants to which they were attached, may be considered as most appropriately falling within the province of the Yorkshire Philosophical Society.

Manchester, May 1st, 1847.

*June 1st.* Dr. GOLDIE, V. P., in the Chair.

Mr. William Sotheran, of York, was elected a subscribing Member.

The following additions to the Museum were announced :

*By Donation.*

From Thomas Allis, Esq., a small collection of choice fossils from the Lias of the West of England, including examples of Hippopodium, Gervillia, Pleurotomaria, Plicatula, &c.

From William Webster, Esq., electrotype copies of the Seals of the Chancellor's office of the see of Durham, and of the Duchy of Lancaster (George II) ; and Copies of the Great Seals of Queen Elizabeth, of the Commonwealth, of Richard Cromwell, and of William IV.

*By Exchange.*

From William Whincopp, Esq. (Woodbridge), an Egyptian lamp ; two Egyptian Deities, in glazed porcelain ; an Etruscan vessel ; four small Etruscan vessels ; five celts ; a small stone adze ; two flint adzes ; a Roman lamp, found at Colchester ; twelve bone pins, from the same place ; 24 British beads, 17 of them amber, found near Newmarket.

*By Purchase.*

Head of Teleosaurus, from Whitby, with lower jaw detached, and in very fine preservation.

A portion of the Stycas recently found near Ulleskelf, between 500 and 600 in number.

A curious mediæval brass key, found near Stamford Bridge.

The following paper was then read,

“ *On the Sarcophagus of Marcus Verecundus Diogenes and the Civil Administration of Roman York.*”—By the  
REV. JOHN KENRICK, M. A.

The paucity of the monuments which illustrate the civil condition and administration of Britain under the dominion of the

Romans gives an especial value to those which we still possess, or whose inscriptions have been preserved to us by credible authority. The whole southern district of the island has been very barren of inscribed monuments; and those of the northern provinces, though much more abundant, are chiefly religious and military. It is therefore fortunate that such unexceptionable authorities as Camden, Burton, Gale, and Horsley<sup>1</sup> have preserved the remarkable inscription which I propose to illustrate, formerly existing here, though the monument itself has shared the fate of so many others, and having been first degraded to a horse-trough, has finally disappeared.

The inscription in its most correct form and with its abbreviations filled up according to unquestionable analogies, runs thus: **MARCUS VERECUNDUS DIOGENES, SEVIR COLONIÆ EBORACENSIS, IBEIDEMQUE MORTUUS, CIVES BITURIX CUBUS, HÆC SIBI VIVUS FECIT.** "M. Verecundus Diogenes, Sevir of the Colony of York, and who died at that place, a citizen of the Bituriges Cubi, made these things for himself during his life time." He had caused the Sarcophagus and Operculum to be executed during his life, and his heir did not forget to inscribe his designation and birth place, after his death.

I cannot conceive of any plausible objection against the genuineness of this inscription. It has been given to us by men of the highest reputation, to whom no suspicion has attached of those mischievous forgeries by which some antiquaries have disgraced themselves. The information which it conveys respecting Eboracum, as being a colony and having a body of Seviri, though not supported by other evidence, is not contradicted by it, and is in itself probable. The mis-spelling of *cives* for *civis* is far more likely to have been the error of a lapidary than of the forger of an inscription. Orelli has remarked a circumstance connected with this word *civis*, which strongly confirms the genuineness of our monument; it rarely occurs except when citizens of the Gallic States are spoken of.<sup>2</sup>

<sup>1</sup> See Eburacum, by the Rev. C. Wellbeloved, p. 102.

<sup>2</sup> Orelli Inscr. 190, 191, 192, 276. "Vides hunc usum civitatem in lapidibus designandi in Galliis potissimum obtinuisse."

The combination *Seviro Coloniae* is also justified by other inscriptions.<sup>1</sup>

Marcus Verecundus Diogenes was the son of a slave ; for his father's name is not recorded. This is the invariable distinction on monuments. Further we learn that he was a citizen of the Gallic people called *Bituriges Cubi*. The nation of the Bituriges had been the most powerful in Celtic Gaul, and had exercised sovereignty over the whole of that portion of the country, as far back as the reign of Tarquinius Priscus.<sup>2</sup> In the time of Cæsar they had lost this predominance, and were themselves subordinate to the Ædui, but they still retained a considerable extent of territory. The Bituriges Cubi, who seem to have remained in the original seat of the nation, occupied the modern provinces of Berri and Bourbonnois ;<sup>3</sup> the Bituriges Vivisci had settled near the mouth of the Garonne ; and Burdigala (Bordeaux) was within their territory. They were thus, as Strabo remarks, Celtic interlopers among an Aquitanian population.<sup>4</sup> As Verecundus Diogenes was not a military man, we may presume that he had come to York for commercial purposes, and I think it not difficult to conjecture in what he dealt. Pliny<sup>5</sup> mentions it as an invention of the Gauls, to cover articles of brass with tin, so that they could scarcely be distinguished from silver. The inhabitants of Alesia (*Alise* in Burgundy, not far from the country of the Bituriges Cubi) were the first who covered bronze horse trappings and the yokes of beasts of burden with a coating of silver ; the Bituriges improved on their invention, and with the progress of luxury not only silvered but gilded ornaments were placed upon the

<sup>1</sup> Orelli, 309, 200.

<sup>2</sup> Livy, 5, 34, Cæs. Bell. Gall. 7, 5. Their chief town, Avaricum, (Bourges), "pulcherrima prope totius Galliæ urbs," was stormed by him. Ib. 15. 27.

<sup>3</sup> D'Anville Notice de la Gaule, p. 170.

<sup>4</sup> Lib. 4, p. 190.

<sup>5</sup> Album incoquitur æreis operibus Galliarum invento ita ut vix discerni possit ab argento, eaque incoctilia vocant. Deinde et argentum incoquere simili modo cæpere equorum maxime ornamentis, jumentorumque jugis, in Alesia oppido: reliqua gloria Biturigum fuit. Cæpere deinde et esseda et vehicula et petorrita exornare; similique modo ad aurea quoque, non modo argentea staticula inanis luxuria pervenit. N. H. 34, 48. *Staticulum* appears to have been a little image, especially used as an ornament of horses or carriages. Comp. Plin. 37, 54, 2.



carriages of every kind. This description exactly suits the ornaments which have been found at Stanwick and elsewhere, which bear evident marks of silvering upon bronze, and we can hardly help concluding that they were the production of the Bituriges, and that Verecundus Diogenes came to Eboracum to deal in them.

He appears from the inscription to have been a *Sevir* or *Sexvir* of the Colony. There has been considerable controversy among antiquaries respecting the nature of this office. The name itself, like *Decemvir*, *Duumvir*, tells us nothing as to its duties, describing only the number of persons who formed the board. Some have supposed the *Seviri* to be priests, others to be judges. If single inscriptions given in collections could be trusted, both these opinions would appear to be supported by evidence; for we find in one<sup>1</sup> *Seviro Sacris faciundis*, which would decide for the sacerdotal character; in another<sup>2</sup> *Seviro juri dicundo*, which would prove a judicial office. But there can be little doubt that in the first instance we should read *quindecimviro*, and in the second *quatuorviro*. These are of frequent occurrence; the others solitary; and the mistake in the latter case is very easily made.<sup>3</sup> We find also mention of a *Sevir equitum Romanorum*, or *turmæ equitum*; but he was probably different from the *Sevir* of our inscription.<sup>4</sup> I believe that the office of *Sevir* is no where mentioned in the remains of Latin literature, except in two or three passages of Petronius Arbiter. In his *Satyricon* the vain and luxurious Trimalchio composes for himself an epitaph: "Cn. Pompeius Trimalchio hic requiescit. Huic Sevirus absentis delatus est."<sup>5</sup> In the same strain he elsewhere says of himself, "Spero sic me vivere ut nemini jocus sim; nemo mihi in foro dixit, Redde quod debes. Glebulas emi: viginti ventres pasco et canem. *Sevir* gratis factus sum. Spero, sic moriar ut mortuus non erubescam." Over his triclinium also was inscribed, "Cn. Pompeio Trimalchioni, *Seviro Augustali*."

<sup>1</sup> Gruter Corp. Inscr. 442, 1. Orelli, however, 3999, gives as genuine an inscription in which VI. VIR., S. F. (sacris faciundis) occurs.

<sup>2</sup> Gruter 385, 6. <sup>3</sup> *Sevir* is written in inscriptions IIIIII; Quatuorvir IIII.

<sup>4</sup> Jul. Capit. M. Anton. Phil. §. 6. <sup>5</sup> P. 272, Ed. Hadrianides. Ib. p. 212.

These two titles, *Sevir* and *Augustalis*, are so frequently combined in inscriptions as to leave no doubt that when *Sevir* occurs alone, *Augustalis* is to be understood. The institution of the *Augustales*, or *Sodales Augustales*, is mentioned by Tacitus (Ann. 1. 34); they were instituted by Tiberius in honour of his deceased father, after the model of the *Sodales Titii*, whom Titus Tatius, king of the Sabines, was said to have created.<sup>1</sup> The first men of the state, to the number of twenty-one, with Tiberius Drusus, Claudius and Germanicus constituted the *sodalitas*, and their office appears to have related not only to Octavianus Augustus individually, but to the Augustan house generally, as we find them employed in performing funeral obsequies to Nero.<sup>2</sup> In the absence of all positive information, we can only conjecture that the spirit of flattery led the provincial towns to show their loyalty by establishing a body of *Augustales*. They are mentioned in inscriptions of the age of Tiberius found at Veii and at Puteoli,<sup>3</sup> and in the later times of the empire, the monuments bear witness, that in every province some town or other had instituted a similar priesthood in honour of the Augustan family. We find also mention of *Seviri Claudiales* and *Flaviales*, but these are rare (Zumpt p. 34, 35.)

When we speak of a priesthood, however, in reference to Roman customs, we must not be misled by modern ideas, to think of an order of men, set apart for religious duties, and bearing an indelible character opposed to that of laymen. The Romans knew no such correlatives as *priest* and *layman*; and a man no more lost his civil character, by becoming a *pontifex* or *Augustalis*, than among us by being a churchwarden. It is true the office was permanent, and not annual, like that to which we have compared it. The title is joined in some inscriptions with the office of *Magister Lararii Augustorum*, from which we may infer that the *imagines*, or waxen portraits of the emperors

<sup>1</sup> Morcelli de Stilo Inscr. Lat. Lib. I. part. I. tit. 1. Orelli, however, deduces the origin of the *Augustales* from the institution of the worship of the *Lares* by Augustus, mentioned by the Scholiasts on Hor. Sat. 2, 3, 281. "Ab Augusto enim *Lares*, id est dii domestici, in compitis positi sunt; ex libertinis sacerdotes dati, qui *Augustales* sunt appellati."

<sup>2</sup> Tac. Hist. 2, 95.

<sup>3</sup> A. W. Zumpt de *Seviris Aug.* Dissert. p. 20. Orelli, 4046, 607.

were kept in a chapel under the charge of the Augustales, and that here the sacrifices or other rites were performed.<sup>1</sup> Their functions, as far as they were religious, were perhaps confined to the performance of a sacrifice on one day in the year, or the burning of incense with prayers, or the pouring out of a libation. The religious part of the sacrifice itself, if it were not a holocaust, was little more than a grace before meat, preparatory to the feasting upon the slaughtered victim. The dignity was conferred by the decree of the Decurions,<sup>2</sup> probably only giving a legal and formal validity to an election by the people. The Seviri formed a *collegium*<sup>3</sup> or legal corporation, a privilege granted very sparingly by the Roman emperors, who dreaded nothing so much as the formation of new corporate bodies. Pliny the Younger consulted Trajan as seriously, about the formation of a company of firemen at Nicomedia,<sup>4</sup> as about the desertion of the temples from the progress of Christianity, and the Emperor chose rather to incur all the risks which the Proprætor pointed out to him, than sanction its establishment. Being thus incorporated they had a common chest, *arca Sevirorum*, a permission specially granted to them, as an inscription records,<sup>5</sup> by Antoninus Pius. To this public chest we find a wife in one instance, a freedman in another, bequeathing money, for the maintenance of the husband's or patron's statue,<sup>6</sup> and a husband, that funeral libations (*profusiones*), and an annual strewing of roses might be made on his wife's grave. Another Sevir leaves a legacy to his collegium, that from the interest they might have an annual feast.<sup>7</sup> For the management of their property, like other collegia, they had a Quæstor<sup>8</sup> or Treasurer, a Patronus and a Magister, one or more, the nature of whose office is not clear. Nor do we know the nature of the distinction between the Seviri Seniorum and Juniorum, beyond what the name itself

<sup>1</sup> Alexander Severus had two Lararia, in one of which he every morning performed divine rites to his predecessors. *Æl. Lampr.* 29.

<sup>2</sup> L. Junius Pateolanus Sevir Augustalis in Municipio Suelitano D.D. i.e. Decreto Decurionum. Orelli 3914, 3942.

<sup>3</sup> Orelli 3953.

<sup>4</sup> Plin. Ep. 10, 42.

<sup>5</sup> Gruter 419, 7.

<sup>6</sup> Grut. 424, 12, 348, 1.

<sup>7</sup> Gruter 439, 2. Orelli 3927.

<sup>8</sup> Orelli 3954. Gruter 149, 5.

implies. The duty of the Augustales or Seviri was evidently not great; we find the same person filling the office not only in neighbouring towns, as Brixia and Tridentum, but in Lugdunum and Puteoli.<sup>1</sup> But though not involving much duty, it evidently was an expensive office, and appears generally to have been held by the class of wealthy tradesmen, or members of those professions which in the ancient world ranked with trades, as the medical for example. These trades and professions were usually exercised by slaves and freedmen, and a large proportion of the Seviri and Augustales were of this latter class. They filled an intermediate place between the Decurions, (the proprietary body), and the plebs; and we find them thus enumerated, *Decuriones, Augustales et Plebs Petelinorum*.<sup>2</sup> It must have been owing to the expense that it was sometimes necessary to compel men to undertake the office.<sup>3</sup> L. Cæcina, a native of Barcelona, leaves property to that community for the annual exhibition of pugilistic games on the 4 Id. Jun. and a distribution of oil to the baths on the same day; he then proceeds to stipulate, that all his freedmen should be excused from the duties (munera) of the Sevirate; or if they should be called to it, then he transfers his legacy to Tarracona.<sup>4</sup> Usually, however, the love of that distinction which arises from being able to spend money seems to have supplied a sufficient number of candidates, and mention is made of supernumeraries, as if the candidates exceeded the vacancies.<sup>5</sup> An *Augustalis gratis creatus* also occurs, and as one of them is recorded to have died at the age of two years and three months, and another of thirteen years, it is evident that the honour was sometimes bestowed as a compliment to parents, or in the hope of obtaining a gratuity from them.<sup>6</sup> We even find mention of a female Augustalis (Morcell. u. s.) The Seviri and Augustales, besides the expenses necessarily connected with their duty, seem often to have undertaken works of public utility. One inscription

<sup>1</sup> Orelli 3952. Possibly at different periods of his life, as it seems to have been the practice to inscribe on a man's monument all the titles he had ever borne.

<sup>2</sup> Orelli 3939. Maffei Verona Illustr. 1. p. 167.

<sup>3</sup> Zumpt. p. 46.

<sup>4</sup> Gruter 378, 1.

<sup>5</sup> Zumpt. p. 59.

<sup>6</sup> Orelli 3955, 3963, 3934.

records the construction of 165 feet of road by them at their own expense.<sup>1</sup> In another, acknowledgments are rendered to the whole body of the Seviri of Como, "ob curam integre et liberaliter gestam," and they in return present two silver wine strainers, or colanders, *trullas argenteas*, to the body who compliment them.<sup>2</sup>

I have observed that where the occupation of the Seviri is mentioned, they evidently belonged to the middle classes; none is more frequent than that of medicine. Its practitioners are always Greek freedmen. On a monument, found at Assisi in Italy, "Publius Decimius Eros Merula, Medicus Clinicus, Chirurgus, Ocularius," records that he had paid 700 sestertia for his liberty, and 2000 sestertia to the community for the Sevirate; 30,000 for the erection of statues in the Temple of Hercules; and a further sum of 32,000 sestertia for the construction of roads. The day before his death he bequeathed his patrimony, the amount of which is illegible from the fracture of the marble, to the community.<sup>3</sup> Another Sevir, whose quality is specifically mentioned, was *materiarius*, a timber merchant; another *calculator*, a computist or actuary; another *scriba*, a clerk to a bench of magistrates. There is an inscription, found at Augusta Vindelicorum (Augsburg, in Germany), on the tomb of Kleuphas, a "Sevir Augustalis, negotiator artis purpurariæ." No doubt this man, whose name is the same with the Cleophas of Scripture, had come from some Syrophenician town to this remote part of the Roman empire, and being enriched by the sale of his costly purple cloth,<sup>4</sup> had enjoyed the honour of the Sevirate. I will mention only one other inscription, which shews the ancient prevalence of a custom which we might have been disposed to think exclusively modern, in memory of a Sevir, who is called "ospitalis a gallo gallinacio," the Landlord of the Cock Inn."<sup>5</sup>

<sup>1</sup> Orelli 3950. See also 3844. Seviri viam cum crepidinibus a quadruvio ad murum straverunt ob honorem. <sup>2</sup> Gruter 477, 7. <sup>3</sup> Gruter p. 400.

<sup>4</sup> Orelli 4250. Ἴσοστάσιος ἦν ἡ πορφύρα πρὸς ἀργύρον ἐξεταζομένη. Athen. 12. p. 526. 4. 455 ed. Schw. The Commentators on Acts 16, 14, have observed that Lydia "the seller of purple," must have been a person of property, from the costliness of the article in which she dealt.

<sup>5</sup> Orelli 4330.

We sometimes find that the ornaments or insignia of the Decurionate were decreed as a compliment to a Sevir, without his being invested with the office, just as the consular and ædilician insignia were sent in compliment to those who were not ædiles or consuls.<sup>1</sup> The Seviri are thought to have been entitled in virtue of their own office to carry the fasces; but this rests on no other authority than a passage in Petronius Arbiter, who represents Trimalchion as having the fasces fixed up before the door of his triclinium, with an inscription declaring his dignity as Sevir; this, however, might be merely a manifestation of his vanity, and in itself it is not probable that so insignificant an officer should be allowed to use the insignia of the first magistrate of the republic.

I have hitherto spoken of the Seviri and Augustales as the same, but the names are not identical. We sometimes find *Seviri* alone spoken of, sometimes *Seviri Augustales*, sometimes *Seviri et Augustales*; and hence the difficulty of defining the relation of the one to the other. The most probable explanation seems to be, that the Seviri were a select body exercising a kind of presidency over the Augustales; that they were generally chosen from the Augustales, but not necessarily or invariably, and hence that although Sevir and Augustalis were generally synonymous, there must have been many Augustales who were not Seviri, and some Seviri who were not Augustales. And, it is probable, that though the Augustales held their office for life, the Seviri may have been annually changed.<sup>2</sup> The scanty information respecting the order of Seviri which has thus been gleaned from monuments is not altogether without use, as affording us a glimpse of society in the provincial towns of the Roman Empire. The rapid multiplication of the order may be attributed to two causes, that spirit of flattery towards the imperial family, which was almost essential to safety, and of which the monuments of those ages bear so many marks; and the disposition of a people among whom wealth increases, while the sphere of their activity is narrowed by despotism, to seek a compensation in frivolous distinctions for the honour which

<sup>1</sup> Gruter 354, 7.

<sup>2</sup> See Zumpt de Augustalibus, p. 60.

might be gained in literature or politics, if mind and action were free. The Sevirate also afforded an opportunity for the numerous, active but disesteemed body of freedmen, to obtain for themselves an honour which might efface the stigma of their birth.

The other important point in the history of Roman York, ascertained by the monument of M. Verecundus Diogenes, is that York was a colony. Without it we should only have the authority of Richard of Cirencester to this point. He tells us that it was at first a colony, but afterwards invested with the prerogatives of a municipium, in consequence of its having been the residence of several emperors.<sup>1</sup> But I must declare my adherence to the opinion of those critics, who hold that Richard's Description of Britain is no genuine work.<sup>2</sup> In the republican times, Colonia, Municipium and Præfectura, were the great divisions of the towns subject to the Romans; the Præfectura being governed by magistrates sent from Rome, the other two by magistrates chosen by themselves. The Colony again differed from the Municipium, in as much as the Colony was founded by the Romans, the Municipium had been previously in existence. Hence the colony was usually organized upon a strict model, the chief magistrates being Duumviri or Quatuorviri iuridicundo, with a council of Decurions, originally elected by the body of the people. But these distinctions are hardly applicable to Britain. The municipal towns of Italy, whether Latin,

<sup>1</sup> Eboracum vero ad Urum fluvium caput Provinciæ, primum Colonia nomine sextæ a Romanis factum, sextæque deinde legionis quæ Victrix dicebatur, sedes. Deinceps vero plurium imperatorum presentia illustrius factum municipii quoque auctum prærogativis. p. 27.

<sup>2</sup> It is singular that in the controversy which has arisen respecting the genuineness of this work, no one has thought of comparing the style of the Description of Britain, with that of the unquestionable works of Richard in MS. According to Dr. Stukely, there exists an historical work of his, beginning with the Saxon invasion, in the Cotton MSS. Nero c. iii. an Epitome Chronicorum in Benet College Library, Cambridge, a Tractatus super symbolum majus et minus, in the same Library, and a work whose title is not specified, among the Wharton MSS. in Lambeth Library. Such a comparison would soon settle the question. I have little doubt what the result would be; for the latinity of the Description appears to me to be the same as that of the preface which Bertram has prefixed to it.

Greek, or Etruscan, were inhabited by a people not less civilized than the Romans, and possessed of an internal organization of their own; we can scarcely conceive of the Britons as having any town-government which the Romans would respect and incorporate with their own system. I am not aware that any inscription exists, in which the name of *municipium* is given to a town in Roman Britain;<sup>1</sup> but we shall find evidence that they had some internal organization, not flowing immediately from the Roman military authority.

The colonies of the Imperial times were not established to provide for a redundant population, but either to reward veteran soldiers, when dismissed from the service, or to erect posts of strength at points where the empire was threatened with danger. When the colonies of Britain were founded we know not, with the exception of Camalodunum (Colchester) where, on the revolt of the Trinobantes, Ostorius planted a colony of veterans "subsidiū adversus rebelles et imbuendis sociis ad officia legum." Tac. Ann. 12, 32. If the Trinobantes required to be thus bridled, it was not less important to impose a similar check on the more numerous and equally fierce Brigantes, and protect the Roman province against those invasions from the North, to which it must have been exposed before the construction of Hadrian's Vallum. Whether Eboracum or Isurium were the first head quarters of Roman power in Yorkshire is a question, upon which perhaps the excavations carried on at Aldborough may throw some light. If Aldborough appears to be placed more directly in the great line of the Roman roads, the position of York is naturally stronger, and much better adapted for commerce. Its name is a plain indication that it had been the seat of a British town, and as Colchester was established in the capital of Cunobelin,<sup>2</sup> Eboracum may have been the chief town of the Brigantes.

The Roman soldiers who thus became an element of the population, were probably chiefly cultivators of the soil, according to the original import of the word. As they had laid aside

<sup>1</sup> Tacitus calls Verulamium a *municipium*, and denies Londinium the honour of being a Colony. Ann. 14, 33.

<sup>2</sup> Dion. Cass. p. 950. ed. Sturz.



the ploughshare to take the sword, when they laid aside the sword they would easily resume the ploughshare ; their art was simple and their allotments might be tilled by their own hands. At the same time, the military habits of his former life would make the veteran efficient in a crisis of public danger. The second generation would not be entirely military, though the sons of veterans were liable to be called on for military service, and thus a burgher population, partly Roman and partly British would be formed.

The supreme jurisdiction in civil and criminal matters was of course vested in the Roman Governor ; Roman statesmen were lawyers as well as soldiers. Yet the inhabitants of the principal towns enjoyed a kind of municipal constitution. If we cannot prove this by direct evidence of Eboracum, we may fairly infer it by analogy. The Romans, from the first extension of their conquests beyond the neighbourhood of their city, imposed a more uniform system of government and administration on their subjects than any other people on record ; and thus showed it to be their vocation, "*regere imperio populos.*" Under the Emperors a Rescript was omnipotent from the Euphrates to the Tagus ; and to no period of ancient history can an argument from analogy be more safely applied.

On an altar found at Elenborough, (Olenacum) in Cumberland, which Horsley says is the finest and most curious ever found in Britain,<sup>1</sup> it is recorded that Gaius Cornelius Peregrinus, Tribune of the Cohort from the province of Mauritania Cæsariensis, built or restored (for the verb is omitted) *domos et ædem Decurionum*. As it could not be the private houses of the Decurions, this must have been their place of meeting and the *ædes*, a chapel in which they jointly performed some act of worship. We find in another inscription in Horsley,<sup>2</sup> mention of a Decurion of the colony of Glevum or Gloucester, who had died at Bath. Since an order of Decurions was found in these two places, we cannot doubt that it existed also at Eboracum, though no monument attests it. The most general distinction of the town population which we meet with on monuments and

<sup>1</sup> Brit. Rom. p. 281.

<sup>2</sup> Brit. Rom. p. 327. Somerset 5.

in laws of the later imperial times, is into the *Decuriones* or *Curiales*, and the *populus or plebs*.<sup>1</sup> The name of Senator was sometimes given to the Decuriones in larger communities; an inscription in Horsley speaks of a Flavius Martius Senator, but it was probably not at Penrith,<sup>2</sup> where the inscription was found, but at some larger place, that he had acquired the title. This privileged order of the Decuriones was composed of persons possessed of a certain amount of property; landed property to the extent of 25 jugera was the usual qualification; at Como, in the time of Pliny the Younger, 100,000 sesterces.<sup>3</sup> They possessed the nomination of the local magistrate, the *duumvir* or *quatuorvir* who presided in the curia, and who exercised a jurisdiction which was constantly more and more restricted by the Roman governor, till at last it amounted to little more than the attestation of protocols.<sup>4</sup> If there existed no *duumvir*, the first decurion on the roll, called the *principalis*, presided over the Curia. They appear to have been a sort of town council,<sup>5</sup> and many things relating to the community, though usually of minor importance, are said in inscriptions to be done *ex decreto decurionum*. They enjoyed the title of *splendidissimus ordo*; but their honours were dearly purchased, and with the decline of the empire their lot became constantly more burdensome. They had to raise the taxes, the indiction, capitation and land tax, a duty sufficiently odious in itself, but in their case accompanied with the responsibility of making good all deficiencies. They could not sell their landed property without permission of the governor, that it might not pass to an owner less capable of paying taxes; those who had no children could dispose by will

<sup>1</sup> In order of dignity they were thus classed; the *honorati* who had filled public offices; then the *decurions*: then the *possessores*, landed proprietors; last the *negotiatores* and *artifices* and members of the incorporated trades or *collegia*. Walther Röm. Recht. p. 396.

<sup>2</sup> Brit. Rom. p. 273.

<sup>3</sup> Plin. ep. 1, 19.

<sup>4</sup> Walther Röm. Recht. ch. 37.

<sup>5</sup> Pliny in his letter to Trajan (10, 113) speaks of them by the Greek name of Bouleutæ; the Emperor in his reply uses *decurionatus*. The letters of this author will show the nature of the functions exercised by the Decuriones, 1, 8. 4, 7. 5, 4. 10, 62.

only of a third part of their property, the rest devolving to the Curia. They could not absent themselves from their place of residence, even for a limited time, without the governor's authority. The Decurion could not become an ecclesiastic, in the times subsequent to the establishment of christianity, without leaving his property either to some one who could assume his responsibilities, or to the Curia itself.<sup>1</sup> Their condition was therefore most wretched ; the state seemed to consider the payment of taxes to be the primary object of its existence, and the rights of property and personal liberty were utterly disregarded, in comparison with the filling of the imperial coffers. We have an evidence of the existence of the tax gatherer amongst us in the Roman times in an inscription,<sup>2</sup> in which Aurelius Bassus bears the title of *Censitor Civium Romanorum Coloniae Victricensis quæ est in Britannia Camaloduni*. Three officers are mentioned as concerned in the imposition of taxes : the *censitores*, valuers ; the *inspectores*, who from their report fixed the proportions in which the vectigalia were to be imposed ; and the *peræquatores*,<sup>3</sup> who either rectified the general principle of the assessment, or applotted it anew, if some of those on whom it had been charged proved unequal to the payment. This severity of taxation was one of the chief causes of the decline of the Empire ; the middle classes were impoverished and destroyed, and the state was ready to crumble to pieces under the rude assault of its invaders.

This is all that I have been able to discover respecting the civil condition and administration of Roman York ; but as it is rather more than appears in our common histories, I have thought that its communication might not be unacceptable to the Society.

<sup>1</sup> Walther Röm. Recht. p. 392. The authorities for all that relates to the condition of the municipal towns under the Emperors are collected in Roth de Re Municipali Romanorum. The results are given in a very able summary, in Guizot's Essais sur l' Histoire de France. Essai I.

<sup>2</sup> Gruter 439, 5.

<sup>3</sup> Orelli 3672.

## STYCAS FOUND NEAR ULLESKELF.

Mr. Wellbeloved announced to the Meeting the purchase of about 600 Stycas, a portion of a hoard discovered in March last, in a field on the banks of the river Wharfe, by a labouring man named Jonathan Lee, in the service of Col. Thompson, while engaged in plowing. The field called Wood-hill Close is situated at the angle formed by the York and North Midland Railway and the river Wharfe, in the township of Hornington and parish of Bolton Percy. The coins when turned up by the plough formed a hard compact irregular mass, about eight or nine inches in length, and three or four inches in thickness; the bag or box in which, it is probable, they had been originally enclosed having entirely perished. It happened that a slip had recently taken place on the railway immediately adjoining the field, and several men were at the time of the discovery employed in repairing it. To these men Lee very imprudently boasted of his good fortune; and, exhibiting the hoard before them, suffered them to chip off fragments from it with their spades: he then put it into the ground again, intending to carry it home when he had finished his day's work. In the meantime, however, his hidden treasure disappeared, and where it is now deposited, is a secret which no one is able, or if able, willing to disclose. The portion now in the possession of the Society was purchased of a person employed on the railway: and these, with the 200 which Mr. Chapman of York has purchased and disposed of, may have been those to which the men helped themselves, when Lee displayed to them his treasure. Strict and frequent inquiries have hitherto failed to trace the three or four thousand, at the least, which must have composed the mass, when it was stolen from its original discoverer. The number of coins in this hoard could not have been much less than that of the hoard found in 1842, in St. Leonard's Place; but owing to the soil in which they had lain, they were in a much worse condition. Of those purchased by the Society, the Curator has been able to ascertain and arrange no more than about 500. As far as an opinion can be formed from these of the whole hoard, it seems

to correspond with that found at York: the same kings occur, and the same moneyers.\* It was probably concealed at the same time, about A. D. 867, when the armies of the Danes came from East Anglia into Northumbria, besieged York, and having taken the city, slew the two kings, Osbercht and Aella, and laid waste the neighbourhood.

In the following list no mention is made of the varieties of marks and ornaments on the coins: or of the different forms, position or arrangements of the letters. Nor has it been thought necessary to notice the various readings of the names of the kings.

## EANRED.

*Moneyers.*

|                    | <i>No.</i> |                      | <i>No.</i>    |
|--------------------|------------|----------------------|---------------|
| Aldates . . . . .  | 2          |                      | Brought up 51 |
| Broder† . . . . .  | 6          | Gadutels . . . . .   | 1             |
| Brodr . . . . .    | 16         | Herred . . . . .     | 3             |
| Cynaalf . . . . .  | 1          | Monne . . . . .      | 38            |
| Cynvulf . . . . .  | 1          | Odilo . . . . .      | 1             |
| EDIIAEAI . . . . . | 1          | Thaidigils . . . . . | 1             |
| Fordred . . . . .  | 19         | Vulfred . . . . .    | 1             |
| Gadutes . . . . .  | 2          | Wintred . . . . .    | 6             |
| Gaduteis . . . . . | 2          | Uncertain . . . . .  | 1             |
|                    | —          |                      | —             |
| Carried up         | 51         | Total                | 102           |

## ETHELRED.

*Moneyers.*

|                   |    |                   |               |
|-------------------|----|-------------------|---------------|
| Aldhere . . . . . | 4  |                   | Brought up 14 |
| Alghere . . . . . | 5  | Brodr . . . . .   | 1             |
| Broder . . . . .  | 5  | Eadvini . . . . . | 7             |
|                   | —  |                   | —             |
| Carried up        | 14 | Carried over      | 22            |

\* See a paper by Mr. C. R. Smith in the Numismatic Chronicle, vol. vii. p. 99, in which he gives the result of his examination of 365 of the Stycas found at York.

† On one of these, three of the letters are Runic. See Mr. Adamson's list of the Hexham Coins, *Archæologia*, vol. xxv. pl. xxxv. No. 7.

|                     | <i>No.</i> |
|---------------------|------------|
| Brought forward     | 22         |
| Eanred . . . . .    | 34         |
| Eanredi . . . . .   | 1          |
| Eardvulf . . . . .  | 70         |
| Erdvulf . . . . .   | 1          |
| Eardvule . . . . .  | 4          |
| Eardvuli . . . . .  | 1          |
| Eardvuf . . . . .   | 2          |
| Earduf . . . . .    | 1          |
| Eavuule . . . . .   | 1          |
| Fordred . . . . .   | 15         |
| Eordred . . . . .   | 7          |
| Leofdegn* . . . . . | 32         |
| Leofdeg . . . . .   | 1          |
| Leofdegm . . . . .  | 1          |
|                     | —          |
| Carried up          | 193        |

|                       | <i>No.</i> |
|-----------------------|------------|
| Brought up            | 193        |
| Leofdegx . . . . .    | 2          |
| Monne . . . . .       | 57         |
| Mnne . . . . .        | 1          |
| Monnb . . . . .       | 1          |
| Odilo . . . . .       | 1          |
| Vendelberht . . . . . | 9          |
| Wintred . . . . .     | 4          |
| Vintred . . . . .     | 1          |
| Wirtnde . . . . .     | 1          |
| Vulfred . . . . .     | 6          |
| Vulered . . . . .     | 1          |
| Vulsic . . . . .      | 2          |
| Uncertain . . . . .   | 25         |
|                       | —          |
| Total                 | 304        |

## REDULF.

*Moneyers.*

|                    |   |
|--------------------|---|
| Alghere . . . . .  | 1 |
| Broder . . . . .   | 4 |
| Coened . . . . .   | 1 |
| Cudberht . . . . . | 1 |
| Fordred . . . . .  | 1 |
|                    | — |
| Carried up         | 8 |

|                     |    |
|---------------------|----|
| Brought up          | 8  |
| Huaetndd . . . . .  | 1  |
| Monne . . . . .     | 4  |
| Odilo . . . . .     | 1  |
| Uncertain . . . . . | 1  |
|                     | —  |
| Total               | 15 |

## OSBERHT.

*Moneyers.*

|                   |   |
|-------------------|---|
| Eanvulf . . . . . | 2 |
| Eanulf . . . . .  | 1 |
| Eannule . . . . . | 1 |
| Eanvule . . . . . | 1 |
| Banvulf . . . . . | 1 |
| Banvule . . . . . | 2 |
|                   | — |
| Carried up        | 8 |

|                     |    |
|---------------------|----|
| Brought up          | 8  |
| Edvini . . . . .    | 2  |
| Monne . . . . .     | 5  |
| Mnne . . . . .      | 1  |
| Viniberht . . . . . | 3  |
| Uncertain . . . . . | 4  |
|                     | —  |
| Total               | 23 |

\* One with an animal resembling a hound, with a trefoil ornament in front: specimens of the same were found both among the Hexham and the York Coins.

## VIGMUND.

*Moneyers.*

|                    | <i>No.</i> |                     | <i>No.</i>    |
|--------------------|------------|---------------------|---------------|
| Coenred . . . . .  | 20         |                     | Brought up 31 |
| Conered . . . . .  | 4          | Edilveard . . . . . | 16            |
| Eoenred . . . . .  | 2          | Hunlaf . . . . .    | 11            |
| Edelhelm . . . . . | 5          | Uncertain . . . . . | 1             |
|                    | —          |                     | —             |
| Carried up         | 31         |                     | Total 59      |

## VULFHIERE.

*Moneyer.*

|                   | <i>No.</i> |
|-------------------|------------|
| Vulfred . . . . . | 8          |

## TOTAL NUMBERS.

|                    | <i>No.</i> |                           | <i>No.</i>     |
|--------------------|------------|---------------------------|----------------|
| Eanred . . . . .   | 102        |                           | Brought up 444 |
| Ethelred . . . . . | 304        | Vigmund . . . . .         | 59             |
| Redulf . . . . .   | 15         | Vulfhere . . . . .        | 8              |
| Osbercht . . . . . | 23         | Uncertain and illegible . | 97             |
|                    | —          |                           | —              |
| Carried up         | 444        |                           | 608            |

Beside those enumerated above there are *two* of Egfrid, (EGFRAIDE,) *one* much blundered; *seven* of the singular type figured by Mr. C. R. Smith in pl. vi. vol. vii, of the Numismatic Chronicle, and which Mr. Cuff\* is disposed to assign to Heardvulf the predecessor of Eanred; *one* which reads EV+DIRE=ENDVER; *another* HOAVDRE=HVLETRD; *four* with two kings; *three* which read EDILREVD, the moneyers uncertain; and *seven* which cannot be represented without the aid of a plate. Not a single coin of Eanbald has been found in this hoard; nor more than four or five among the coins found at York.

\* See Numismatic Chronicle, vol. ix. p. 126.

November 2nd. Professor PHILLIPS in the Chair.

“*On the Aurora Borealis of October 24th, 1847; as seen at York.*”—By PROF. JOHN PHILLIPS, F. R. S., &c.

The Author, having explained the general characters of Auroral exhibitions as they appear in the latitude of York, and directed attention to the periods of their occurrence, (annual and hourly,) the peculiarities of their light (in form, distribution, and colour), their relation in space to lines of magnetic symmetry, (axal and equatorial), and the local disturbance which they occasion in the momentary position of these magnetic lines, enumerated the main features of the luminous meteor of October 24th, as follows :

1. “*In form* this Aurora was composed of narrow beams and irregular expansions of light. When most complete, between 9.30 and 10.30 (York time) the whole of the northern zone from horizon to zenith, and a large segment of the sky south of the zenith, but not reaching to the horizon, were covered by innumerable beams finely pencilled in white light, and extending from all sides upwards till they reached a point S. S. E. of the zenith, and formed there a crown of many rays and great brightness. At irregular intervals the light was withdrawn from the beams, and again flashed out in new forms ; and if the beams were compared to the lines of longitude on a globe, they were often interrupted by continuous band-like zones of latitude concentric with the pole of the beams, through which the clear sky was visible. Round the pole also was frequently seen a nearly circular space clear from beams.

2. Irregular expansions of light appeared in two parts of the sky, viz., in the magnetically East and West parts, and there, expansions large and red as the smoke masses over York Minster when it was on fire, were crossed by white narrow beams in great numbers. Several times red beams rose 60° in height from the magnetic East, and both on the East and West magnetic lines, but no where else, red flashes passed occasionally to the centre of the crown.



3. This centre of converging rays was easily seen to be about  $20^{\circ}$  South of the zenith of York: it was also considerably to the East of the meridian, and remained apparently constant for an hour and a half. At 10 hours p. m. it was *near* the star Mirach; at 10:20 appeared pretty *exactly* to coincide with it; at 11 it was certainly on the East of it. Hence it may be computed that the pole of the auroral beams was in a great circle crossing the meridian of York, from about  $27^{\circ} 30'$  West of North, to about  $27^{\circ} 30'$  East of South, and distant from the zenith  $22^{\circ}$  S. S. E. nearly. Now this point differs from that to which the South pole of the Dipping Needle points at York, only about  $2\frac{1}{4}$  degrees in altitude and  $3\frac{1}{2}$  degrees in Azimuth. There can be no doubt then that this, like other carefully measured auroral exhibitions, was arranged in magnetic lines."

The Author then compared with these results various other notices of the phenomenon, at Durham (by Professor Chevallier), at Nottingham (by Mr. Lowe), at Cambridge (by Professor Challis), at Bath, Brighton &c., and showed the bearing of the whole on the well known Daltonian theory of the Aurora, (1796), which, in its leading points, was found to be strongly supported by them. As a basis for a comprehensive view of the whole subject, the Author submitted the following propositions.

1. "That by reason of the unequal and systematically variable distribution of heat and moisture over the land and sea, and through the atmosphere, electric tensions and polarities arise, which occasion instantaneous sparks (lightning) in those (lower) parts of the atmosphere which resist heat, and silent currents (auroral beams) in the regions above the clouds.

2. That these currents may be regarded as of indeterminate direction towards the upper or most attenuated regions in which no attracting objects exist, and in consequence, assume positions which depend only on the earth's magnetism; each beam representing an electrical magnet and having its axis parallel to the Dipping Needle. Hence thousands of such beams, a thousand miles apart, may exhibit many local coronæ, such as were noticed in October, each symmetrical to the magnetic axis of the place of observation."

“ *On the Solar Eclipse of the 9th October, 1847, as seen from the Observatory of the Society, and on the Longitude of York.*”—By W. L. NEWMAN, ESQ., F. R. A. S.

The morning was cloudless but exceedingly misty, and the Eclipse was not fairly discernible over the buildings of the city, until about 7 o'clock, at which time the body of the sun was partially covered by the moon. The state of the atmosphere was such, that some of the phenomena usually observable were not in this case visible.

The edge of the moon appeared to be clear and well defined, and not serrated as is frequently the case. There were no appearances of any mountainous elevations on the moon's edge, or of any volume of light or flame thereon. There were no appearances of any beads of light, or black and white bars extending between the edges of the sun and moon, at the period of the greatest obscuration; but as the Eclipse in this latitude was only partial, and not annular, it was not perhaps to be expected that any such should be visible, particularly as the atmosphere was so unfavourable to the developement of such phenomena. The sun's light appeared to undergo no change in its component parts. The observed time of the last contact (corrected for the errors of the clock) was 8h. 44m. 54,5s. mean time at York. The angle of contact measured from the vertex was  $148^{\circ}$  towards the East. The longitude of the observatory at York, calculated from the above observation, comes out 4m. 18s. 95 West of Greenwich. If we compare this result with some others, we shall find a near coincidence between them. The mean of 12 observations of moon-culminating stars, (9 of them being taken with the first limb, and 3 with the second,) gives for the longitude of the observatory 4m. 13s. 01. By the Eclipse of the 15th of May, 1836, when both contacts were obtained, the longitude was found by a mean of the two, 4m. 14s. 05. By Triangulation from the Trigonometrical survey it appears to be 4m. 19s. 5.—By giving a proper weight to these several determinations, we shall arrive at a tolerably

accurate knowledge of this most important element of our position. Thus :

|                                  | Estimated Weight. |    |    |
|----------------------------------|-------------------|----|----|
|                                  | M.                | S. | .  |
| By moon-culminating Stars, ..... | 1=4               | 13 | 01 |
| Eclipse, 1835 .....              | 2=8               | 28 | 10 |
| Triangulation .....              | 1=4               | 19 | 50 |
| Eclipse, 1847.....               | 1=4               | 18 | 95 |
|                                  | <hr/>             |    |    |
|                                  | 5)21              | 19 | 56 |
|                                  | <hr/>             |    |    |
| Mean .....                       | 4                 | 15 | 91 |
|                                  | <hr/> <hr/>       |    |    |

So that the longitude of the observatory at York may be taken as approximately true at 4m. 16s., to which we may add the latitude as also approximately true  $53^{\circ} 58'$ .

If we refer back to the observations of Mr. E. Pigott, (who resided in Bootham, York), which were made in the years 1783 and 1786, we find that he made his longitude as follows.

|   | M.    | S. |
|---|-------|----|
| 1. By occultations of Stars by the Moon .....   | 4     | 27 |
| 2. By an Eclipse of the Moon on Sept. 10th, 1783.....   | 4     | 16 |
| 3. By observation of the transit of the Moon's bright limb,<br>corrected for the Moon's motion eastward ..... | 4     | 16 |
| 4. By Eclipses of Jupiter's Satellites .....  | 4     | 61 |
|   | <hr/> |    |
|   | 17    | 30 |
|   | <hr/> |    |

And considering them all of equal weight, the mean is 4 22,5  
for the longitude of Mr. Pigott's Observatory West of  
Greenwich.

January 4th. Professor PHILLIPS in the Chair.

“ *On the Mineral Condition and general affinities of the Zoophytes of the Chalk at Flamborough and Bridlington.*” \*—By EDW. CHARLESWORTH, F. G. S.

The Fossil Zoophytes which occur between Bridlington and Flamborough-head constitute, in respect to their mineral condition, a very remarkable exception to the state in which we generally find remains of this class throughout the Chalk formation.

\* The details of the subject requiring numerous illustrations, an abstract only of this paper is inserted.

The various Zoophytic bodies, passing under the names Chonites, Polypothechia, Ventriculites, &c., usually owe their preservation to their more or less intimate connection with flint. The siliceous material sometimes permeates the whole substance of the organic body, filling up the pores and larger cavities, and accumulating in excess on the exterior, forms a nodule of flint which presents only a rude outline of the contained nucleus. More frequently, however, the Zoophyte is mineralised with opaque silex, associated with pulverulent Carbonate of Lime, but in these cases a deposit of black flint, external to the whole, is invariably present, not confluent however with the included fossil, the two being readily separable, and sometimes removed from actual contact by a considerable intervening space. The process of mineralization is rarely found to have extended throughout the entire mass of any one individual specimen. Sometimes the expanded cup-shaped portion is preserved, at other times part of the stem, but the base of the stem with the commencement of the roots is the part most frequently met with. As the excess of flint in the portions thus preserved would, in the majority of instances, have amply sufficed for the mineralisation of the *entire* organic body, it would seem that the original tissues of the Zoophytes of the Chalk had no special affinity for silex, beyond that of forming, in common with other organic bodies, nuclei for its aggregation.

In the examination of the Bridlington Zoophytes, considered in relation to their mineral condition, the attention of the observer is at once arrested by the total absence of flint, either as an external casing or as a material solidifying their mass. In the absence of any chemical test, their appearance conveys the idea that they have been rendered stony, simply by the interstitial deposition of calcareous matter, Lime taking the part usually assigned in the laboratory of nature to Silex, in bringing about the mineralization of the Zoophytes which flourished on the bed of the Cretaceous ocean. This phenomenon seeming to call for more special consideration than had yet been given to it, I tried the effect of subjecting various specimens of the Bridlington fossils to the action of dilute muriatic acid. The experiment

brought to light the curious and important fact, that though calcareous matter constituted the great bulk of the fossil body, the tissues themselves were siliceous, and consequently proof against the action of the acid. It moreover put beyond all doubt the correctness of Prof. Phillips' location of these fossils among the sponges, their structure thus cleared of extraneous matter being so obviously *spongioid* that it was impossible to mistake it.\*

The process of mineralization has here in every case extended to the *whole* of the original organism, external to which there is no deposition of either siliceous or calcareous matter. This condition of completeness, so unusual in the Zoophytes of the Chalk, and the facility with which their internal organisation can be displayed, do not, however, promise to yield satisfactory data on which to base specific characters for the Bridlington Sponges, but rather to demonstrate that among these fossils even very remote types of form, by a series of transitional links, may so insensibly merge into each other, as to render hopeless any attempt to lay down definitions of species which shall not rather perplex than assist the Geological student.

Prof. Phillips, in his 'Geology of Yorkshire,' has figured characteristic examples of the more remarkable forms presented by the fossils under consideration. Including under the general name "Spongia," *Ventriculites* and *Siphonia*, he enumerates in all ten species, but his figures are not accompanied with any explanatory or descriptive details. To the above ten species Mr. J. E. Lee† has proposed to add eight more, but this author in the nomenclature of his species adopts the genera *Siphonia*, *Spongia* and *Udotea*. Putting aside the *Spongia cribrosa*, *porosa*, *lævis*, and *Benettia* of the 'Geology of Yorkshire,' the *Udotea cancellata* and *Spongia spinosa* of Lee, it appears to

\* It is hardly necessary to remark that the time and pains spent in the attempt to remove by mechanical means the hard chalk from the surface of the Bridlington Sponges, may in most cases be now saved by the employment of acid. It requires however some practice, and the exercise of judgment, to ensure success in its application, and the possessors of these fossils would do well not to commence with experimenting upon their best specimens.

† Magazine of Natural History, vol. 3, new series, page 10.

me that the remaining species indicated by the above authors, although embracing extreme limits of form, may yet be referred to the endless variations in shape that are encountered when a very numerous assemblage of these fossils is made the basis of study. Nor have I observed that the types upon which the above species rest, are repeated with sufficient frequency and exactness to render their provisional retention a matter of conventional utility. I am disposed therefore to bring together under the provisional name, *Rhizo-spongia polymorpha*, the *Spongia plana*, *capitata*, *osculifera*, *marginata*, *convoluta*, *radiciformis*, *terebrata*, *catablastes*, *fastigiata*, *sepia-formis*, *ampulla*, *Siphonia clava*, and *Siph. anguilla*.

The mineral condition of these fossils is unfavorable to the detection of the spicula which in their living state might doubtless have been recognised, and upon which perhaps data might have been founded for specific determinations. The distribution, number and forms of the oscula with which their surfaces are often studded, exhibit no constant relation to the varieties of configuration shewn by the sponges themselves. The main canals for the passage of water through the interior, which have been thought to afford grounds for the establishment, among fossil sponges, of the genera *Choanites* and *Siphonia*, furnish no tangible characters for the location of the Bridlington fossils, within the limits to which these generic types are restricted. The nearest allied forms, among recent sponges, occur in Australia and New Zealand, the principal and only well marked differential feature that I can detect, consisting in the distinctly defined root-like processes sent off at the base in the fossil species; and though I may be reminded that in the development of these parts we see an adaptation of the organism to the special physical conditions which obtained at the bed of the cretaceous sea, not necessarily associated with any other modifications of structure,—Sponges, like the *Encrinites* of that period, requiring to be *rooted* in the chalky mud upon which they grew,—still the name *Rhizo-spongia* may be used provisionally, until further light is thrown upon a class of fossils which unquestionably constitute one very remarkable feature in our local Geology.

*Discovery of Silver Coins at Deighton.*

Mr. Wellbeloved drew attention to a donation from Lord Wenlock, of 57 English Silver Coins, part of a hoard discovered a few months ago, on digging for the foundation of a new wall adjoining the dwelling-house on one of his Lordship's Farms, at Deighton, about four miles from York. The coins were contained in an earthen vessel, which was broken by the pickaxe, but the contents were carefully collected by the tenant and conveyed to Lord Wenlock. The hoard consisted of 348 English Silver Coins, comprising 60 groats of Mary, 18 of them bearing the legend of PHILIPPVS ET MARIA; 24 groats of Elizabeth, 55 shillings of Elizabeth, of eleven or twelve different coinages; 134 sixpences of Elizabeth, of 22 different coinages, ranging from A. D. 1561 to A. D. 1602; 49 shillings and 26 sixpences of James I. The shillings belong to the three first years of his reign, the sixpences begin with the first and end with the tenth year, and are of seven different coinages.

The latest date of any coin in the hoard being A. D. 1613, it is probable that these coins were deposited in the place in which they were found, not long after that year: the sixpence last coined appears to have been little worn by use.

In general, the coins are in pretty good condition, excepting the groats, which are all very much defaced.

Mr. Wellbeloved mentioned, that the honesty of the tenant has been rewarded by his noble landlord, by the present of a silver cup, to which some of the Coins are attached, forming appropriate ornaments.

March 7th. Rev. J. KENRICK in the Chair.

“*Thoughts on Antient Metallurgy and Mining in Brigantia and other parts of Britain, suggested by a page of Pliny's Natural History.*”—By JOHN PHILLIPS, ESQ.,  
F. R. S., G. S.

To one who meditates on the progress of natural knowledge, the difficulty of penetrating to a true estimate of its condition in past ages often appears unconquerable, except in cases which

admit of the interpretation of antient results by modern laws and theories. Once in firm possession of such laws, we enclose the old phenomena, so to speak, in a field to which are only such and such possible avenues, and thus can sometimes declare the very mode by which the alchymist was led to his golden error, and the Chaldæan shepherds to brighter truths. Without this principle of interpretation, many almost modern writers, nay authors of this very century, can sometimes not be understood. The laws of modern Geology and Zoology—for such there are, and well-founded too—are as much required to put a true construction on some of the writings of Lister and Linnæus, as the methods of Ray, Linnæus, and Cuvier are required for the just estimation of Aristotle. We shall probably find the darkest pages of antiquity to be precisely those which refer to subjects where our own knowledge is least clear, least collected into laws of phenomena, and most removed from laws of causation. Ought we not, before declaiming on the ignorance of the Antients, to be careful to make allowance for the differences of form in which knowledge presents itself at different periods, as well as for the incompleteness of *their* records, and the imperfection of *our* interpretations?

Pliny's Natural History appears to me to be precisely in the position of difficulty which has been already alluded to. Its vastness, variety, and seeming disorder, may well deter the most comprehensive master of modern science from duly weighing its mass, or even measuring its surface; and the evident incompleteness and almost haphazard character of its chapters are apt to disgust the student of special branches of science and art. Yet, probably, if for each important branch of human knowledge handled by Pliny, a special editor were set to work—well versed in the philosophy of his subject—Pliny would take a higher degree on examination, and the history of human knowledge be amended.

From the 37 books of diffuse and erudite learning, the genuine work of Pliny the Elder, let us fix on the part which treats of the nature of metals, and passing over his lamentations on the useless excess of gold and silver—which may be recom-



mended to the Chancellor of the Exchequer—his accounts of the uses and properties of Gold, Electrum,\* Chrysocolla, Silver, Quicksilver, Stibium, Scoria Argenti, Spuma Argenti, Minium, Cinnabar, Brass, Cadmium, Iron, and many compounds of metals—let us pause at the 16th chapter of the 34th Book, which treats of the metals of Lead, white and black.

“The most precious of these, the white, is called by the Greeks *κασσιτερον*, and fabulously declared to be sought for in Isles of the Atlantic, to which it is brought in wicker vessels, covered with leather, (*vitilibus navigiis corio circumsutis*.) But now it is ascertained to be indigenous in Lusitania and Gallicia, in sandy surface soil, of a black colour, and only distinguished by its weight. Small pebbles [of the ore] also occur, principally in dried beds of streams. The miners [metallici] wash these sands, and what subsides they melt in furnaces.

“It is also found with the gold ores (*aurariis metallis*) which are called stream works (*elutia*), the stream of water washing out (*eluyente*) black pebbles a little varied with white, and of the same weight as the gold. On this account, in the vessels in which the gold is collected, these pebbles remain with it; afterwards they are separated in the chimneys† (*caminis separantur*), and being melted are resolved into *plumbum album*.

“In Gallicia *plumbum nigrum* is not made, because the adjoining Cantabria [Asturias] so much abounds in that metal.

“Not out of white *plumbum* as out of the black can silver be extracted.

“To solder together [pieces of] *plumbum nigrum* is impracticable without [the use of] white *plumbum*, nor the white to the black without the addition of oil. Nor can [pieces of] white *plumbum* be soldered together without the aid of the black metal.”

\* Gold with one-fifth of silver.

† What distinctive meaning should be attached to *fornaces* and *camini* is uncertain. It seems that the *camini* may indicate if not what we call chimneys, at least cavities in or above the furnace.

“That [plumbum] album was in esteem during the Trojan time Homer is witness, who calls it *κασσιτερον*.

“Of plumbum nigrum the source is double: either it comes from its own vein, without admixture, or grows with silver, and is melted while mixed with that metal. The part which is first liquid is called Stannum;\* that which flows next is Silver: that which remains in the furnace Galena,† which is the third portion of the vein (or ore). This being again melted‡ yields plumbum nigrum, [the other] two parts [of the ore] being deducted.”

This chapter is a text on which a xxxviii<sup>th</sup> Book of Natural History might be written, embracing the history or fable of the *κασσιτεριδες*, the antient arts of metallurgy, and the eager trade in metals which allured the Phœnician sailors on the Atlantic, and led the Roman armies to Britain.

What is *κασσιτερον*, for which plumbum album is the equivalent? what is stannum, obtained from mixed ores of silver and lead? what is galena, elsewhere called Molybdæna; (cap. 18.) We need not ask what is plumbum nigrum, for by that is clearly designated Lead.

That *κασσιτερον* or *καπτιτερον* was Tin, appears to be generally allowed. The mineralogist and miner who know the mode of occurrence, and character of tin ore, will have no doubt that plumbum album of Pliny is tin, and that author twice positively and expressly identifies this with *κασσιτερον*.

The uses to which Homer puts *κασσιτερον* in the Thoraca and Shields of Agamemnon, Achilles, and Asteropæus, and in the greaves of Achilles, are such as imply easy fusibility and ductility, and indicate that the metal was highly valued and almost precious.§

\* Analogous to this is the process of separating silvery lead from mere lead, invented by H. L. Pattison, Esq.

† Lib. xxxiv. cap. xviii. Est et Molybdæna, quam alibi galenam vocavimus, plumbi et argenti vena communis.

‡ At the present day we should perform this melting of the residual ‘galena’ in the slag-hearth, with a flux.

§ The following are the principal passages in the Iliad where *κασσιτερον* is mentioned:—

Virgil puts no tin into the Arms of Æneas—perhaps the metal was then of too vulgar use—employed too much by tinkers—to be fit for a heroic shield. Electrum is substituted, and iron is the staple article in the Vulcanian workshop, as brass was in that of ἩΦΑΙΣΤΟΣ, 1000 years before.

The picture of the great artist—the Tubal Cain of the West, the cunning worker in metal, who melted, alloyed, inlaid, carved, and polished his work—whose multiplied bellows breathed at the will of the god, softly or fiercely—whose brass was hardened to wound, or tempered to bend,—is perfect, and might be paralleled on a small scale till a few hundred years in the famous smiths of Wales, who made their own iron, and were by the laws of that country, as renewed by Howell Dda, allowed to sit next the sacred priest.

Why Pliny treats as a fable the story of the Cassiterides yielding tin, is somewhat difficult to say. He classes the Cassiterides with Hispania, Book iv. Cap. xxii. (*ex adverso sunt insulæ,—Cassiterides dictæ Græcis, a fertilitate plumbi*), and speaks of Mictis (on the authority of Timæus the historian) as six days sail from Britain, and as yielding candidum plumbum. iv. Cap. 16. If the Cassiterides are the Ocrynian Promontory and the Scilly Isles, from which, as recorded by Strabo, the

XI. 25. In the Thorax of Agamemnon were 10 plates (*οἰμοὶ μελανοὺς κυανοῖς*, 12 of gold and 20 of *κασσιτερον*).

XI. 34. In the Shield of Agamemnon were 20 white bosses (*ομφαλοὶ*) of Tin, and in the middle one of *κυανός*.

XVIII. 474. For the Shield of Achilles ἩΦΑΙΣΤΟΣ throws into his crucibles Brass, unconquered *κασσιτερον*, honoured gold, and silver.

XVIII. 564. He pours the Tin round the border.

XX. 270. In this Shield were 5 plates; the two exterior ones brass; within these 2 of *κασσιτερον*, and in the middle of all, 1 of gold.

XVIII. 612. The greaves of Achilles are made of soft *κασσιτερον*.

XXII. 503. The Chariot of Diomedes was adorned with gold, and *κασσιτερον*.

XXIII. 561. In the brazen thorax of Asteropæus the ornament was of glittering *κασσιτερον*.

What is here called *κυανός*, and is apparently a much valued substance, is difficult to say. From its colour, Lapis Lazuli, Turquoise, and Carbonate of Copper have been suggested. As it is only mentioned in connection with the arms of Agamemnon, which were the gift of Cinyras king of Cyprus, the latter mineral may be thought to have the best title, especially if, as at Chessy, it occurs blue in Cyprus.

Phœnicians drew their tin, (*ικτις* of Diodorus, *μικτις* of Timæus, and *ουηκτις* of Ptolemy being Vectis or Wight, from which the tin was carried through France to Marseilles), we may suppose that in the early period, the only route for the tin of Cornwall to the Mediteranean was by sea to the western parts of Spain ; but that in the latter period the track by land through Gaul to Massilia was preferred, and the old trade had become a tradition which Pliny chose not to adopt from Strabo, who is never quoted on this subject by the author of the *Historia Naturalis*, but may be obliquely and slightly alluded to. Whether tin occurs at all in any part of the Spanish Peninsula can hardly be doubtful after the assertion of Pliny. He had been procurator in Spain, and by his intimacy with Vespasian,\* must be supposed in position to learn much of Britain, from the dispatches of Petilius Cerealis, Ostorius Scapula, and Agricola. But he was suffocated by the fumes of Vesuvius, in 79, one year after the appointment of Agricola to Britain—and for the greater part of his literary life, Britain was a scene of never-ending war and confusion. Besides this the Cornish Promontory appears to have been at no time much occupied by Roman stations, or traversed by roads, and it may be thought to have had then, as afterwards in Saxon and Norman times, a history and commerce quite distinct from and little known to the Belgic settlers in Albion. He might be mistaken respecting Britain, of which perhaps he could know only Albion ; but his positive assurance of the occurrence of tin in Spain is confirmed by a passage in Bowles's *Natural History of Spain*, and, as I hear from Mr. Kenrick, by a later German writer (*Hopfensach*) ; it occurs, in fact, according to one of our best books of Mineralogy, in beds in the Mica schist of Galicia. (W. Phillips, 1823). Oxide of Tin has been found, besides, on both sides of the *Erzegebirge* in granite, at Puy de Vignes (*Haute Vienne*), also in granite, in Wicklow (granite), on the east coast of Sumatra, Siam and Pegu, and in Banca and Malacca. It has been found in Mexico, Chili, and Greenland, and mixed with other matters in Finland and Sweden.

\* *Accessit imp. A.D. 69.*

Upon the whole, the case is probably thus. It is the old Phœnician trade, destroyed with Carthage, which Strabo describes, and Pub. Crassus went to explore in the *κασσιτεριδες*. Diodorus Siculus narrates the course of trade in the days of Augustus from Ictis, when Gaul offered an easy route to the Mediterranean; but 100 years of war and commotion interrupted this trade of Cornwall with the East, and Pliny was suspicious of the fables of Greece, and knew that tin was obtained in Spain. Notwithstanding this fact, it appears that Cornwall and the Asiatic Isles have been the principal, almost the only sources of the Tin of the antient world, that of Zinnwald being quite unknown till a much later date.

Stannum is evidently an alloy of an argentine or tin-like aspect—a variable pewter—a metal more easily melted than copper, for the lining of which it was much used in Pliny's days to obviate the danger of cupreous solutions. This process we now call Tinning, and Stannum\* with its variable meanings is perhaps the common parent of the French Etain, meaning as often Pewter as Tin, and of the German Zinn, which like 'Tin' in the English workshops, is used sometimes for Pewter when lining vessels, and solder when covering surfaces which are to be joined. Our German Silver, Britannia Metal, &c., belong to this class. The process of illination with Stannum must have been well executed to justify the exclamation of Pliny, that it did not augment the weight of the vessel to which it was applied. The Brundisian Specula made of it yielded to Silver, indeed, at last; but they are declared to have been of admirable efficiency.

Stannum then is an alloy of Tin with Lead, Tin with Brass, Tin with Antimony, Lead with Silver, or other variable mixtures of metals often associated in nature.

Pliny mentions adulterate or alloyed kinds of Stannum, composed of 1 part *white brass* to 3 parts of *candidum plumbum*;

\* Pliny's notices of Stannum are frequent. See Hardouin, Vol. ii. 429, 22; 528, 7; 530, 30, 31, &c.

Stanno et ære mixtis 627, 11—illitum æneis vasis saporem gratiorem facit, 669, 14—discerni vix possit ab argento 669, 26—æramentis jungitur, 669, 11.

of equal weights of candidum and nigrum (which is called Argentarium); of 2 parts of nigrum and 1 of candidum, (called Tertiarium); with this last lead pipes are soldered.\* Fraudulent dealers add to the Tertiarium equal parts of album, call it *argentarium*, and with it plate or line other metals.

He gives the prices of these compounds and those of pure album and nigrum, the former 20, the latter 7 Denarii for 100 lbs.

Plumbum album, he says, is rather of an arid nature; the nigrum is entirely humid; “therefore the white is of no use unless it be mixed with another metal. Silver cannot be leaded (lined) with it, it will be melted first.” “It is affirmed that if there be too little nigrum mixed with the album, the silver will be corroded by it. Album is melted into brasswork (inlaid, an invention of Gaul), so that it can hardly be known from silver—these works are called *Incoctilia*” (silvered). He then speaks of the application of this invention to the trappings of horses, and carriages, and other curious productions of Alesia and the Bituriges, a subject which our esteemed Kenrick has lately handled with his usual felicity.† One of Pliny’s sentences is remarkable as narrating a class experiment fit for a chemical school: *Plumbi albi experimentum in charta est, ut liquefactum pondere videatur, non calore, rupisse.*

The meaning seems to be, that the metal is fluid at so moderate a heat as when fused to break by its weight, not burn by its heat the charta on which it is poured. Tin melts at 440°—442°; Lead at 612°.

What follows is a very important passage: *India neque æs neque plumbum habet, gemmisque suis ac margaritis hoc permutat.*

May we be justified by this sentence in refusing to credit the supposition that Tin (*plumbum album*) was brought overland or by other routes from the Asiatic Isles and shores towards Western Europe? If so, Cornwall chiefly, if not wholly, supplied the Tin which entered so many ways into the comforts and

\* *Hoc fistulæ solidantur.* This is the solder of our tinmen.

† See in this Volume p. 52.

necessities during peace and war of all the nations surrounding the Mediterranean and Euxine, Baltic and German Ocean; in fact, the world, as distinctly known to the Roman geographers.

Let us now inquire into the means whereby the antient people reduced the metals which they were so earnest in seeking across mountains and oceans at the point of the sword. To confine the inquiry within reasonable limits, we shall speak chiefly of Tin and Lead, the only metallic products, as it appears, which were regarded by the antients as abundant in Britain. (Iron is mentioned by Cæsar as of limited occurrence.)

Gold, the most widely if not most abundantly distributed metal—found near the surface of the earth, in a pure and malleable state, easily fused, uninjured by fusion—was probably the metallic substance on which the earliest processes of fire were tried, and they could not be tried unsuccessfully.

Tin, the ore of which has been found at the surface in many situations with auriferous sand and gravel, cannot have been long unknown to the gold finders of the East and the West. Some one of the many accidents which may or rather must have accompanied the melting of gold would disclose the nature of the accompanying white metal, whose brilliance, ductility, and very easy fusibility would soon give it value.

The melting of *Tin Ore* is, however, a step in advance of the fusion of *Native Gold*. The gold was fused in a crucible (xxxiii. p. 617, Hard.) made of white clay,\* which only could stand the heat and the chemical actions which that generated: but tin ore would in this way of operation prove totally infusible. It must be exposed at once to heat and a free carbonaceous element. The easiest way of managing this is to try it on the open hearth. Perhaps some accidental fire in the half-buried bivouacs of the Damnonii may have yielded the precious secret. As to the fuel, we are told that pine woods were best for brass and iron, Hard. xxxiii. p. 621; but the Egyptian papyrus was also used, and straw was the approved fuel for gold. In the metalliferous country of Cornwall and Devon, peat is plentiful, and an order of King John (1201) allows the

\* Such as now called Cornish clay for example.

miners to dig tin, and turves to melt the tin, anywhere in the moors, and in the fees of Bishops, Abbots and Earls, as they had been used and accustomed. (Confirmed by Edw. I., Rich. II., and Henry IV.\*)

These and other singular privileges extending as far as the lands on which the crown claimed rights, are long anterior to the other rights of property in Cornwall, Mendip, Derbyshire, and the Forest of Dean, and go far to justify the supposition of our modern mining laws being a relic of Roman, or perhaps of earlier than Roman times.

As the bellows was known at least 1000 years before Pliny, we have here all the materials for a successful tin smelter's hearth. If the smelting work was on waste land, and a little sunk in the ground, we recognize the old 'Bole' or 'Bloomery' of Derbyshire, now only a traditional furnace, but antiently the only one for the lead and iron of that country.

Pure tin once obtained, there must intervene a long series of trials and errors before its effect in combination with lead, brass, silver, &c., could be known; before the mode of conquering the tendency to rust in the act of *soldering* could be discovered; (oil being in this respect as valuable to the tinner as artificial Chrysocolla was to the jeweller and goldsmith, (xxxiii. p. 621. Hard.) From all this it follows that the smelting of tin might be, and probably was performed by the inhabitants of the Cornish Peninsula. This art they may have brought from the far east; Phœnicians may have taught it them; but all the accounts of the antient tin trade represent the metal and not the ore as being carried away from the Cassiterides. Diodorus mentions the weight and cubical form of the tin in blocks, carried from Ictis to Marseilles and Narbonne, and Pliny says of the Gallian tin that it was melted on the spot.

Did the Cornish or Gallician miners make bronze? For this is generally the compound indicated by the Roman *æris metalla*, though it is undoubted that they also knew of, and distinguished zinc brass. There is, I believe, no instance of a single bit of pure tin, or pure copper being found with the numerous 'celts,'

\* De la Beche, in Report on Geology of Cornwall.



which occur in so many parts of England; nor is any other proof given that the direct union of tin and copper was effected by the natives of Britain. Copper is so abundant in Cornwall that it might tempt to the other hypothesis, but this copper is a sulphuret; it is found united to the sulphuret of iron, in deep veins, and in a matrix of quartz; and these are things which render the production of pure copper one of the most refined operations in smelting. Cæsar tells us the brass used by the natives of Britain was imported. Probably Cyprus,—colonized by the Phœnicians, to which old authors refer as the original source of brass—Cyprus with its antient copper mines (Tamasus), which has given its name to the metal, might be one of the points from which bronze radiated over the Grecian, Roman, and Barbarian world. It was from Cinyras, the king of Cyprus, that Agamemnon received his splendid breastplate with twenty plates of tin, and its liberal additions of Turquoise, Lazulite, or rather Malachite, obtained perhaps from the soil of the Island. (Plin. xxxiii. p. 633, Hard.)

The works of Ἡφαιστος, the Crawshay of antiquity, may have been fixed on Lemnos on account of some volcanic appearances there, but the tradition shows at least that the various operations of refined metallurgy were not strangers to the Islands of the Mediterranean; and the uniformity of design and composition in the antient celts, chisels, μακελλα, and instruments of war, implies a common and that not a barbarous origin. The perfection, and variety, and great proportions of the brass work executed in the Grecian states and colonies, may also be regarded as indicating the local seat of the early as well as the later art of working in bronze.

Lead was obtained in Spain and Gaul, from deep and laborious mines, (xxxiv. p. 669, Hard.) but so abundantly near the surface in Britain as to suggest a law for preventing more than a limited production—a Brigantian law of vend. The Romans employed lead in pipes (fistulæ) and sheets, which were soldered with alloys, as already mentioned. This lead was previously refined, and its silver removed; the silver indeed being often the object of the enterprise. How earnestly silver was

sought—how well the mining operations were carried on by the ‘old men,’ appears from the notice of the Carthaginian mines in Spain, the pits and levels driven by Hannibal being mentioned as in wonderful preservation by Pliny. The same may be said of at least one set of mining works of Roman date, in the extreme parts of South Wales, viz. the Gogofau near Lampeter, where gold was extracted with much labour from broken and pounded quartz, of which enormous mounds remain. The adit still exists, and was lately entered by Sir H. T. De la Beche, who found in it a specimen of native gold. In the vicinity, tradition indicates a Roman settlement; and a massive chain of gold and other remains were found, and are now possessed by the family of Johnes of Abercothi.\*

The districts in Britain, where lead veins coming to the surface in abundance might justify the praises of Pliny, are, in the south, Mendip; in the west, Flintshire, &c.; in the North, Derbyshire, Yorkshire, and Cumberland, that is to say the Brigantian Territory; and it is to this last district that the descriptions apply most correctly. Lead cast in Roman moulds, ‘pigs’ in fact of the age of Hadrian and other Emperors, have been found in Flintshire, Derbyshire, Yorkshire, and some other counties. But few antient mining instruments have ever been found in the lead bearing districts of Britain,† and I am strongly of opinion that much of the lead ore was collected from the surface by aid of water, artificially directed. The process, in fact, is described by Pliny, in terms so exactly applicable to the modern ‘hushes’ of Swaledale, that no doubt can remain of this custom, which is now esteemed rude and semi-barbarous, being of Roman or earlier date in Britain.

As thus from Roman or earlier times our lead mining derives its ‘hush,’ its levels, and shafts, implements for washing and other processes of the workmen, and the forms, weights, and marks of its melted metal, we may easily admit a similar origin for the melting processes. Lead mostly occurs in the sulphuret, which offers no particular difficulty in the fire. By

\* See Sir R. I. Murchison’s Remarks on Gogofau, *Sil. Syst.* p. 367, 368.

† Sir R. I. Murchison mentions Roman mining utensils at Shelve in Shropshire, *Sil. Syst.* p. 279.

cautious roasting, its excess of sulphur may be removed, and the subsequent melting with charcoal, or a flux, be facilitated. Indeed without roasting, and without flux in many cases, the lead will flow out of the ore, if placed among flaming wood or peat, and subjected to a sufficient stream of air.

But the use of fluxes could not long remain unknown in the limestone districts of Northumbria, or amid the fluoric veins of Derbyshire—limestone and fluor being to this day valuable aids in the furnace. Peat was the fuel in Cornwall, and still is in Yorkshire, and perhaps the Roman smelters did really erect their furnaces on waste ground and heaths at Dacre and Matlock, far from the mines of Greenhow and Youlgreave, even as is done at present with the cupolas of Lee and Langley mills.

The uses of crucibles (*χοανοί*), bellows, cavities of some peculiar sort (*καμίνους*) perhaps chimneys, great variety of carbonaceous fuel, the power of purifying and alloying, and knowledge of the properties of alloys, appear quite conspicuous among the antient arts.

The inscriptions\* on these masses of lead, are in the same

\* The following inscriptions have been recorded on pigs of lead obtained from British mines during the Roman sway in Britain. It will be remarked that they belong to early imperial times.

IMP. CAES. DOMITIANO. AVG. C. C. S·VII. Found at Hagshaw Moor, Dacre Pasture, near Pately Bridge, Yorkshire, in 1734.

A Roman pig of lead, weighing 126 lbs., was found on Cromford Moor, near Matlock, in the year 1777, having the following inscription in raised letters on the top :

IMP. CAES. HADRIANI. AVG. MET. LVT.

A second was discovered near Matlock, in 1783. It weighed 84 lbs., and was 19 inches long at the top, and 22 at the bottom. Its width at the top was 3½ inches, and at the bottom 4½. The inscription appears to contain these letters :

L. ARVCONI. VERECVND. METAL. LVTVD.

A third with the inscription also in raised letters on the top was found on Matlock Moor, in the year 1787. It weighs 173 lbs., and was 17½ inches in length, and at bottom 20½.

TI. CL. TR. LVT. BR. EX. ARG.

Glover's Derbyshire, vol. i. p. 71, 72.

A fourth is stated to have been found at Castleton, on which only the letters IMP could be read distinctly. It was said by Mr. Mawe to be preserved in the Museum of Mr. Green, at Lichfield.

Sir R. I. Murchison records a Roman pig of lead (from the Shelve mines in Shropshire probably), bearing the inscription, IMP. ADRIANI. AVG. *Sil. Syst.* p. 279. This pig is said to be unlike the modern pig.

general form as the 'marks' of the different mines now in work, and which, no doubt, are their literal and lineal descendants. Thus the Ald or Auld Gang mine of Swaledale, old in the days of the Saxons; the mines of Greenhow Hill, which supplied sheet and pipe lead for our baths and coffins, at York, as well as tribute to the imperial treasury; the mines of Middleton and Youlgreave (Aldgroove), from which the Lutudæ sent not only lead, but 'exargentate' (that is to say refined) lead from which the silver had been removed, use to this day the pig of the same weight of  $1\frac{1}{2}$  cwt., of similar shape, and similar mark to that of 1800 years antiquity.\* And just as at the present day, the countryman whose gallows is tired drops the leaden load by the way side, for another day's work, so in the days of Rome, the Brigantian lead was thrown down from the tired caballus by the side of the antient mining road, on Matlock Moor in Derbyshire, and Dacre Pasture in Yorkshire.

This fact of the discovery of the Roman lead, *not at the mines*, but at a distance of some miles from them on a track leading *towards* a Roman or rather a Pre-Roman station, is of much importance in Archæology. For thus we arrive, in the first place, at the conviction of the existence of very antient mining roads not of Roman work, nor probably of Roman but of earlier date, leading toward Cataractonium, Isurium, Eburacum, Mancunium, Derventio, or rather to the Brigantian towns or centres of trade, on which the Romans following their wont in Africa, Spain, and Gaul, fixed their attention and established their war camps and their colonies. The politic lords of the world broke up no national industry, set no legionaries to supplant the native miners, but stationing a few cohorts on the antient roads, in or close to the mining district, as at Hope and Bainbridge, to controul a rude population, received regularly the fruits of the industry which they might direct, but did not personally share. Viewed in this light, how complete appears the grasp of the Roman treasury on the mining fields of Britain.

\* The modern pig is made near to  $\frac{2820}{16}$  of a fodder or  $176\frac{1}{4}$  lbs. Three Roman pigs found near Matlock, in 1777, 1783, 1787, weighed 173, 126, and 84 lbs., these being as  $1, \frac{3}{4},$  and  $\frac{1}{2}$  of the modern pig.

The Fossway from the Ocrynian promontory crosses the Mendip Hills—the road from Mancunium to Bremetonacum traverses the Calamine district of Bowland—the road from Derventio or Tutbury to Mancunium runs along the west of the great Derbyshire field, and the legionary path from Carlisle to York goes right across the metalliferous country of Yorkshire and Durham.

We may even ask, with some confidence, whether the line of the Hadrian wall, which cuts off from the north all the richest mines of the Derwent, the Allen, and the Tyne, but abandons the mossy dales of bleak Northumbria, was not drawn with especial reference to the mining wealth of the districts.

May we not regard, as a confirmation of all that has been advanced touching the antiquity of our mining processes, the fact of the existence to this day, though impaired by recent acts of parliament, of peculiar rights and privileges in the mining districts? These rights are sometimes guaranteed by and appear to emanate from Royal Charters, as in the Stannaries of Cornwall and Devon, but they are probably of far earlier date, and have merely been confirmed as old customs by John and his successors. In Mendip, the Forest of Dean, and Derbyshire, the miners' rights were preserved by royal officers, but the rights themselves transcend all history and tradition. To sink a pit or drive a level in any field; to cover the rich herbage with barren ore-stuff; to cut a way to the public road; to divert, employ, and waste the running waters; and to do all this without consent of owner, and without compensation being so much as asked by lord or villein, landlord or tenant, implies in Derbyshire a settlement of mining rights long anterior to Domesday Book, the charters of Repton Abbey,\* the neighing of the Saxon

\* The Mines in the neighbourhood of Wirksworth were wrought before the year 714; at which period that district belonged to the Nunnery at Repton, over which Eadburga, the daughter of Adulph, king of the East Angles, presided as Abbess. In that year the Abbess sent to Croyland, in Lincolnshire, for the interment of St. Guthlac, who was originally a monk of Repton, a sarcophagus of lead lined with linen, (*plumbum lintheumque*). This lead was obtained from the possessions of the old Saxon religious establishments at Repton, part of which were the mines near Wirksworth. In the year 835, Kenawara, then Abbess of the same Nunnery, made a grant to Humbert, the Alderman, in which she surrenders that estate of

horse, and the flight of the Roman eagle. In connection with all that has been mentioned before, the furnaces, the roads, the restricted vend, the foreign trade—they seem to me to indicate a people who came with many inventions from the metalliferous east to the metalliferous west—before the Athenians drew silver from Laurion, or the Carthaginians from Iberia.

To these antient—these Semitic mining processes we have added perhaps steel instruments, and certainly explosive agents ; the ore-hearth still remains, but it is generally yielding to the reverberatory furnace ; silver is no longer obtained by oxidation of some thousand times its weight of lead ; steam blows our furnace fires, rolls and pipes our metals, and flies with iron wings on roads more solid than the Appian way. The world of George Stephenson is much different from that of Julius Agricola ; but some features of the past remain to connect the earliest with the latest aspect of our country : and among these the least altered, and the most instructive, appear to be the mineral products and the mining processes. If by these we judge the great Brigantian tribes which surrounded Isurium, they must be placed far higher on the scale of civilization than the place usually accorded by the Saxon to the Celt.

I presume to think, indeed, that without full attention to the mining history of Britain, as indicated by fragments in classic authors, and illustrated by processes not yet extinct, the opinion which may be formed of the antient British people would be altogether conjectural, derogatory, and erroneous.

mines, called Wircesworth, on condition that he gives annually, as a rent to Archbishop Ceolnoth, lead to the value of 300 shillings, for the use of Christ's Church, Canterbury. On the destruction of the religious houses by the Danes, in 874, it is probable that the lead mines became the property of the Crown. As such they are mentioned in Domesday Book.

Glover's Derbyshire, vol. i. p. 73.

*On the occurrence of Larus minutus in perfect plumage,  
at Bridlington.*—By ARTHUR STRICKLAND, ESQ.

After giving a description of the characters presented by a specimen of the Little Gull, shot at Bridlington, (July or August, 1847,) in mature plumage, and which coincides pretty nearly with the account to be found of this species in Mr. Yarrell's "History of British Birds," the author observes, "The procuring any of the Blackheaded Gulls in perfect plumage will always be a rare occurrence, unless in the immediate vicinity of their breeding place. The common Black headed Gull breeds abundantly at Hornsea, only 13 miles distant from this place, (Bridlington,) and yet it is a difficult matter to procure examples shot here, in perfect plumage, and can only be done during the few weeks of the breeding season. During that time, Bridlington seems to be beyond their usual range, and to calculate with anything like certainty on obtaining specimens, it is necessary to go several miles nearer Hornsea. I believe that even before these birds quit their breeding place, the feathers of the head begin to change, and by the time they are dispersed over the country, their plumage has certainly lost its perfect character.

"No Ornithologist appears to have detected the breeding haunt of the *Larus minutus*, and until we can attain a knowledge of this, it will always be a rare accident that puts us in possession of specimens in mature plumage. Since the Little Gull has been better known to collectors, it has been not unfrequently killed here. Five or six have been obtained this year, and nearly as many last. They occur in two states of plumage. Old birds have the head white, spotted with black, and the rest of the plumage in mature condition; young birds have a black bar on the tail, the wings much marked with black, and the quills black with little or no white at the ends.

"There seems to be a singular alternation of the colours of the wings of this species in the change from young to adult. The young bird has the outer part of the quills black and the inner

web at the under side, white; in the old birds the outer parts are pale-blue, tipped with white, the inner webs and under side nearly black.”

June 6th. Dr. GOLDIE in the Chair.

*On the occurrence of Otis McQueenii, Gray, in England.*—By JOHN GOULD, Esq., F. R. S., &c.

The high state of cultivation to which the British Islands have attained has tended much to diminish the number of our large indigenous animals, and in many instances, species both of Quadrupeds and Birds have been entirely extirpated. Of that noble group of Birds, the Bustards, two species of which were formerly denizens of our plains and open districts, but a small remnant now remains; of the *Otis tarda* there is not in all probability a single male left, the few that yet exist wild in the British Islands being it is believed, all females and dwelling in solitude among the open fields of Suffolk and Norfolk. There could not then have been added to the British Fauna a more interesting bird than the Bustard, that was lately killed in Lincolnshire,\* and which is now the property of Mr. Higgins of York. By the occurrence of this species both the faunas of Great Britain and of Europe have gained an accession of no ordinary value. An opinion having been mooted that this Bustard was one of the African Houbaras that have lately been imported into this country, and which having escaped from confinement had been shot, Mr. Charlesworth requested me to call at the office of the Zoological Society and favor him with my opinion; upon examining the bird, I was no less surprised than pleased to find that it had never been in confinement, and moreover that it was not referable to the *Otis Houbara*, but to a species inhabiting the high table-lands of Persia and Western India, described by Mr. Gray as *Otis McQueenii*. The European species of this group are now

\* The capture of this Bustard is recorded in the *Zoologist* for 1848, page 1969, where it is spoken of as the *Otis Tetrax*. It is subsequently alluded to as the *Otis Houbara*, see p. 2065.



therefore four in number, viz. *Otis tarda*, *O. Tetrax*, *O. Houbara*, and *O. McQueenii*. The specific distinctions of the *O. McQueenii* as compared with *O. Houbara* are slight, but the fine black-tipped crest feathers, grey neck, lighter colouring of the upper surface which is also much less strongly marked with brown, together with its smaller size, are characters by which it may at all times be distinguished from the latter species. The specimen killed in Lincolnshire appears to be an immature female.

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The specimen of *Otis McQueenii*, forming the subject of the above communication, was exhibited by Mr. Higgins, along with a colored lithograph taken from the original by Mr. Gould, for publication in a forthcoming supplement to his great work on the Birds of Europe, where it will be accompanied by a full description.

In reference to the supposition of this bird being the *Otis Houbara*, and therefore possibly one of seven examples of this species which not long since had arrived in this country, Mr. Higgins stated that careful inquiries having been instituted upon this point by Mr. Charlesworth, it was ascertained that Mr. Fraser, the importer of these Houbaras, had disposed of them to the Earl of Derby, and to the Zoological Society, and that no escape had occurred either at Knowsley or at the Regent's Park.

#### *Additions to the Museum of Antiquities.*

Mr. Wellbeloved drew the attention of the Meeting to some interesting additions recently made to the Collection of Antiquities in the Museum of the Society.

The first of these was a thin plate of pure gold, measuring about 1 inch by  $\frac{3}{4}$  in., having on one side an inscription, in two lines, rudely and slightly formed.\* The first line consists of some kind of cabalistic characters, once, no doubt, significant, but now wholly unintelligible. The second line is composed of

\* See Eburacum, Pl. xvii. Fig. 15.

Greek letters ; the meaning of which has not yet been ascertained. Some of the mystical characters in the first line, corresponding with some inscribed on an Egyptian-Gnostic gem published by M. J. Matter in his "Histoire Critique du Gnosticisme," Pl. ii. C. Fig. 2, renders it highly probable that this remarkable relic belonged originally to a disciple of one of the Egyptian sects of Gnostics that prevailed during the 2nd and 3rd centuries of the Christian æra. It was found when the excavations for the site of the station of the York and North Midland Railway were in progress, not far from the spot on which the temple of Serapis stood, and the cave in which the mysteries of Mithras were celebrated. The worship of Serapis and Mithras was probably introduced into Eburacum by the Emperor Sept. Severus and his son Caracalla ; and as there is reason to believe that at that time the Christian religion was professed by some who served in the Roman armies, or who accompanied the Emperor into Britain, so there may have been among these some infected with the heresy of Egyptian Gnosticism : and thus this curious relic of ancient superstition may, about that time, have found its way into Roman York. It has been presented to the Society by T. Allis, Esq., in whose possession it has been since the time of its being discovered.

By means of a contribution from several members of the Society, the interesting antiquities which were discovered about two years ago in the church-yard of St. Dionis in Walmgate, have been added to the Museum. They consist of a Roman altar, found in the rubble foundation of one of the pillars of the nave long since destroyed ; lids of two Saxon coffins, and fragments of four other lids, of a later date, ornamented with crosses of different patterns. Of these, the most important is the altar ; 2 feet in height, and 12½ inches in breadth, bearing the following inscription :

DEO  
ARCIACON  
ET·N·AVG SI  
MAT·VITALIS  
ORD·V·S·LM

which may be read thus: Deo Arciacon et Numini Augusti Simatius Vitalis Ord.\* Votum solvit libens merito. There is nothing in this inscription to indicate its date; nor, consequently, the Emperor to whose divinity the altar is in part dedicated. The god Arciacon, whose name occurs in no other known inscription, was probably one of those local deities to whom the Roman legions were prone to pay honour; especially if, in the attributes ascribed to them, they bore any resemblance to the gods of their own country. It has been conjectured that Arciacon was a local deity of Arciaca, or Artiaca, a place in ancient Gaul.†

From time to time during the last century various depositories of the dead have been discovered in York and the suburbs: urns containing the ashes of bodies which have been burned, in a very few instances placed within tombs formed of tiles; and coffins of stone, or occasionally of lead, in which bodies had been buried.‡ Many interesting relics illustrative of the methods employed by the Romans in disposing of their dead, are to be seen in the Museum of the Society. To these has lately been added, by the kindness of the directors of the York and Newcastle Railway, a tomb of a singular and remarkable character, discovered by some workmen employed on that railway, near the entrance to the York station.

The tomb is composed of ten large, roughly hewn slabs of grit-stone, placed on a few flag-stones; two on each side, one at each end, and four forming the roof or cover.

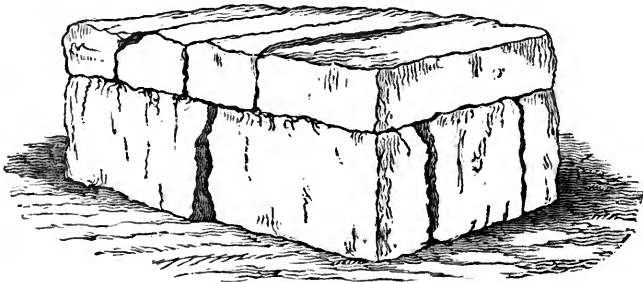
Upon the removal of the stones forming the lid of this rude tomb, a regularly shaped mass of lime appeared, which, being carefully taken out and turned over, was found to bear a pretty perfect impression of a human body. As in the case of the female, whose remains were discovered a few years ago in Hes-

\* Mr. Kenrick conjectures Ordovix, i.e. one of the Orlovices, which he thinks is confirmed by the following inscription (Orelli, 2089.) Diabus Malvisiis et Silvano Aur. Verecundus Ord. Brito V. S. L. M. This inscription was found at Cologne.

† Now called Arcis sur Aube.

‡ Eburacum, p. 106, 109.

lington field,\* the body had been covered with a course linen cloth, the folds, texture, and even small portions of which were discernible. The shape of the lime clearly indicated that the body had been inclosed in a coffin, which had evidently been of wood; small fragments of it still adhering to the lime, and to some of the iron nails that had been used in fastening it together. From the large and regular cavity in the lime, in which the skull was found, it appears that the head had been placed upon a pillow; but no portion of it remained.



Roman Tomb found at York.

Height 2ft. 8in., length 8ft. 2in., greatest width 4ft. 4in.

*Description of an Ancient Tumular Cemetery, probably of the Anglo-Saxon period, at Lamel Hill, near York.*†—By JOHN THURNAM, M. D.

Lamel hill is the well known mound, about half a mile from York, on the rising ground to the south of the road to Heslington. On this tumulus, which is now included within the grounds of the Retreat, a windmill formerly stood, but was removed about fifteen years ago. About half a mile to the east of Lamel hill, and situated on the same rising ground, is another tumulus, now called Heslington mount,

\* Eburacum, p. 108.

† As it is proposed that this paper should appear at length, in the *Archæological Journal*, a rather concise description only of the actual facts is given in this place.

but which, as Mr. Davies was the first to point out, seems formerly to have borne the name of Siward houe. The site of both these tumuli must have been very near to the Roman road between Eburacum and the nearest station to the east—Derventio.\*

Drake observes of Lamel hill, “I take this hill, as several others around the city, to have been originally raised for Roman tumuli, though they afterwards served to plant windmills upon.”

Lamel hill is noted as having afforded a site for a battery, which was placed here by the parliamentary army under Fairfax, during the siege of York in 1644. The contemporary writers,† to whom we are indebted for what we know of this siege, do not mention the mound under the name by which it is now known; and the first author who, so far as I am aware, speaks of “Lamel hill” is Drake; who says “it must have took its name from the windmill which stood on it, Lamel Hill being no more than *le meul*, the miln hill, called so by the Normans.‡” This derivation appears very questionable.

Lamel Hill has a diameter, from east to west, of about 110 feet, and of about 125 feet, from north to south. Its base, which measures 375 feet in circumference, has therefore a circular form, inclining to an oval. At the summit, is a tolerably level area, having a circumference of about 100 feet. The mound is situated somewhat on the southern slope of the higher ground between York and Heslington, and has, consequently, a greater elevation above the surrounding fields on the south side than it has on the north; its height, on the east, west, and north sides, varying from about  $14\frac{1}{2}$  to  $15\frac{1}{2}$  feet, whilst, on the south side, it is not less than  $22\frac{1}{2}$  feet. Its elevation, above the summer level of the Ouse, is about 90 feet.

In digging over the mound, a few human bones had occasionally been thrown up, but nothing further was known of it as a place of sepulture. During the late spring, the

\* See Wellbeloved's Eburacum, and Newton's Map of British and Roman Yorkshire.

† Rushworth; Sir H. Slingsby; and Hildyard (by Torre).

‡ Eboracum, 1736, p. 251.

excavations were made by which the following particulars were disclosed.

The only probable relics, found on or near the surface, of the occupation of Lamel hill by the troops of Fairfax and Lesley, consist of a few coins, and a piece of cast iron which weighs nearly two pounds, and seems to have formed part of the bottom of a large pot or boiler. It is probably part of a camp-kettle, though some have supposed it to be a piece of armour. These coins are chiefly of the reign of Charles the First; and consist of a silver penny and two or three farthings of the Scotch coinage of that monarch. There is also a small copper coin of the contemporary Louis the Thirteenth of France.

Commencing at a depth of about three feet from the surface, human bones were found, in great numbers, throughout the mound; but complete skeletons were only discovered at a level varying from ten and a half to twelve feet from the summit. All the human remains which were found above this level were in the shape of scattered bones, which had evidently been disturbed since their original interment. No skeletons or other remains were found at a greater depth than twelve feet; though, in the centre of the tumulus, the excavations were carried to the depth of about twenty feet from the summit.\*

The skeletons were uniformly laid from west to east,—the feet to the east;—a distance of not more than two or three feet intervening between every two skeletons. At this level, Lamel hill has been the seat of interments arranged nearly or quite as regularly as in any churchyard at the present day. From twenty to thirty skeletons and the detached bones of at least as many more were exhumed; and it may be concluded that this cemetery has afforded interment to from two to three hundred bodies.

The bones have all the appearance of great age, being, for the most part, very light, porous, and brittle. Those found nearest the surface, particularly on the south side of the tumulus, are

\* See section-plan of tumulus; plate 2, fig. 1. The section is from east to west, through the centre of the tumulus.

much eroded, and have a peculiar worm-eaten appearance. Whilst, however, the more free action of air and water upon the bones has produced this appearance, it seems, after a certain time, to have induced a peculiar density and hardness, somewhat resembling that of semi-fossilized bones, which has rendered them less susceptible of further change. The bones found at a greater depth, and particularly those of skeletons previously undisturbed, have less of the eroded character externally, and are generally lighter and more fragile, and of a darker colour. This difference is particularly seen in the crania; many of which are very thin and decayed, and even present large holes in the side which was placed most deeply in the earth.

The skeletons are those of persons of both sexes, but those of adult males appear to preponderate. A few skeletons of children and young persons, and the lower jaws of two decidedly old persons, were found. Many of the skeletons must have been those of men of a stature varying from six feet to six feet four inches: the thigh bones, in several instances, measuring from 19 to  $21\frac{1}{2}$  inches, and in one case not less than  $22\frac{1}{2}$  inches, in length.

The teeth are almost uniformly much worn down, as if from the use of food of the hardest and coarsest kinds. This condition is observed even in the incisor teeth, and is very characteristic. A few of the bones present marks of disease; one thigh bone is affected by *exostosis*; a *tibia* by the disease called *spina ventosa*; and two *humeri* and one *tibia* by *necrosis*. All these diseases are more or less likely to have originated in injuries or violence to the bones. The parietal bone of one skull exhibits a considerable cleft, such as may probably have been produced by a sword or other weapon. Two skulls present a peculiarly thickened and spongy condition, from disease. One of these skulls has a thickness of five-eighths of an inch, and the hypertrophy, as exhibited in the prominent condition of the sutures, is very marked.

The crania are generally small, and their prevailing shape is elongated and partially pyramidal; the frontal region being

decidedly narrow and low; the parietal wide and often much elevated; and the occipital, though likewise small, often protuberant in the centre.\* Other shapes however exist; thus one of the crania, (5) is very flat and wide in the parietal region, whilst it has both a wider and higher forehead. A few of the skulls (e.g. 12) approximate more closely to the modern European standard, and are better proportioned and tolerably ample in the frontal region. Probably three out of every four of the crania examined, belong to the first described class, as regards form.

Scattered amongst the disturbed human remains, and even within a foot of the undisturbed skeletons, were found several bones of some of the lower animals. Amongst these were the bones, including the jaws and teeth, of a small horse, and the fragments of the burr of a deer's antler; but the majority consisted of the bones of the small extinct ox,—the *Bos longifrons* of Owen. Hitherto, I believe, the remains of this animal have not been found with antiquities which can be assigned to a later period than that of the Romans. The species, however, may have possibly existed, in this part of the kingdom, down to the time of the Saxons.†

A few coins and counters were found, at depths varying from six to ten feet. Some of these are very much worn, and not to be deciphered. Two of them, however, are Nuremberg counters, of the sixteenth or seventeenth century, one of which bears the name of Hans Schultz. One of the coins is that of a Ferdinand; and there is a second brass Roman coin, perhaps of the Emperor Trajan. The most interesting

\* See plate 3. I am indebted to a friend for the sketches of the crania represented in this plate. They were taken with the craniograph, described by Dr. Morton, (*Crania Americana*, p. 294). The skulls are drawn to the same scale, and are reduced to rather less than one-eighth of the actual diameter. The skull A, a, b, c, is introduced as a standard for comparison. This skull is of rather more than average size, and well proportioned, though in shape, inclining rather more to the round than usual. It was found in digging on the site of the Railway Station, in Tanner Row, York. In this plate, the six crania, 1, 2, 4, 5, 8, and 12, are, probably, those of males, and the other six, those of females.

† In plate 2, fig. 2, a metatarsal bone of *Bos longifrons*, from Lamel hill, is compared with that of the common English ox. The size is reduced to one-tenth in diameter.



object, however, is the brass seal of the keeper of a chapel dedicated to the Blessed Mary at Morton Folliot. This seal is probably of the fourteenth or fifteenth century, and bears the inscription, "S.Cōmune C'todi Capelle bē Marie de Mort Folliot." It has for a device, a figure of the Virgin and Child, and beneath this, that of an ecclesiastic with the hands uplifted in the attitude of prayer.\* It is difficult to understand how this seal made its way from Morton Folliot, in Worcestershire, to Lamel hill.

Near the centre of the tumulus, at the depth of about ten feet, two or three fragments of tile, evidently Roman, were found. Not far from these, two or three pieces of Samian ware, and a few fragments of coarse earthenware, some of them ornamented and covered with a green glaze, were also thrown up.

In the very centre of the hill, on the level, and in the line of the undisturbed skeletons, a large urn, of simple but unusual form, was discovered. This urn measures twelve inches in height, and has a capacity of three imperial gallons.† It is formed of a very hard and coarse ware, of a dirty brick-red colour, and has evidently been turned on a wheel. Part of the surface is somewhat corroded, and presents numerous fragments of broken pebbles and even granite. There was nothing but some clayey soil found in the urn, which had a peculiarly offensive odour. Its internal surface presented a pellicle of dry, scaly matter, of a dark green colour. Placed in water, for a few hours, and observed with the microscope, this substance was found to consist of an aggregation of vegetable organisms, living specimens of which are capable of being thus reproduced. These, no doubt, consist of a species of those minute confervæ, now called *mycoderma*.‡

Several rude iron nails and rivets, and numerous pieces of clumsy iron plate and bar, bent at a right angle, and perforated for nails, were also found. They are covered with a very thick

\* See plate 2, fig. 3, which represents the actual size of the seal.

† See plate 2, fig. 4.

‡ See plate 2, fig. 5, which represents a charred specimen of this microscopic plant, magnified about 120 diameters.

rust, and, in many cases, are almost entirely oxidized and encrusted with pebbles.\* Many of these present distinct traces of wood adhering to them. A few portions of decayed wood were also found; and, in several instances, it was observed that three or four pieces of iron, such as have been described, were found by the side of undisturbed skeletons. Though some of the fragments of iron were hardly capable of being used in this way, the most probable opinion respecting them seems to be that of their having formed the fastenings of coffins, in which the bodies had been deposited. Altogether, about nine pounds weight of this old iron was collected.

Immediately below the skeletons and extending to a depth of about two feet, the gravel and clay of which the soil consists was extensively mottled with a white calcareous matter, which effervesced, on the addition of dilute muriatic acid. A remarkable black seam, averaging about an inch in thickness, was found to stretch, with little interruption, through the centre of the mound, at a level of between ten and eleven feet from the summit, and from one to two feet above the undisturbed skeletons. The colour of this seam was found to depend on the presence of minute fragments of wood charcoal. In the course of, or near it, a few portions of burnt human bones were found, but a microscopic and chemical examination did not disclose bone ashes, as forming an essential constituent of this seam.

It appears probable that this black seam indicates what has, at some period, been the surface of the cemetery. Fires, for some purpose, appear to have been made on this level, and to have left behind them their traces in the form of the seam in question. Whether this seam of ashes originated in beacon fires, or in fires which had been lighted for the combustion of the body, in connexion with cremation and urn burial, or for some other purpose, must remain doubtful.

The facts described seem also to render it probable that the cemetery was originally of much greater superficial extent, and proportionately less elevated; and that its outskirts were,

\* A few of these pieces of iron are figured, plate 2, fig. 6. They are reduced to a diameter of one-sixth.

for some reason, subsequently dug up and piled on the central part, which remained undisturbed. This change may possibly have taken place in 1644, when the battery was erected here, during the siege of York. At the same time, also, the urn in the centre of the mound may have been disturbed, and the deposit of burnt bones, which it probably once contained, scattered. The urn, however, may have been deposited empty. In any case, the position of this urn, in the centre of the cemetery, surrounded by so large a number of skeletons, is very remarkable.

Another seam, of less extent, of a reddish brown colour, and from one to two inches in thickness, was observed running through the east side of the mound, about eighteen inches above the black seam. The matter composing this seam was proved, chemically, to contain a large amount of iron, and had, doubtless, originated in the oxidation of portions of the old iron already described.\*

For the reasons already stated, I do not in this place produce the arguments which seem to warrant the following conclusions respecting the place of burial now described. These conclusions are:—

1. Lamel hill appears to have been the site of a Christian, but not ecclesiastical, cemetery; and must, consequently, be attributed to a period subsequent to the introduction of Christianity into this island, under the Romans, in the second century, and previous to the appropriation of cemeteries around churches, which commenced under Archbishop Cuthbert, in 742.

2. Whilst, perhaps, there are not grounds for concluding, positively, that this cemetery does not belong to the Roman-British period, it is much more probably to be attributed to the early Saxon Christians of the seventh or eighth century; at which time, the burial of the dead not being allowed in towns, there was no church-yard within the walls of Eoforwic.

\* In the section-plan of the tumulus, plate 2, fig. 3., the upper line on the left or east side indicates the seam of iron-rust; the lower line, that of charcoal. The lighter stratum, beneath the skeletons, represents the earth mixed with chalk or lime, beneath which is the natural gravel of the district. The dotted lines indicate the extent of the excavations.

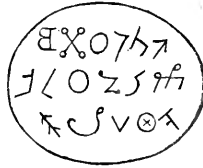
January 2nd., 1849. PROF. PHILLIPS in the Chair.

*Additional Observations on the Egyptian Gnostic Amulet, described by Mr. Wellbeloved, (see page 95).—By THE REV. JOHN KENRICK, M. A.*

Fig. 1.



Fig. 2.



Of the two figures given above, No. 1 represents the inscription on the plate of gold which Mr. Wellbeloved has described, copied from his *Eburacum*, Pl. xvii. 15. No. 2 is copied from a Gnostic gem, figured by Matter, (*Hist. Crit. du Gnosticisme* Planche ii. c. fig. 2.) The reverse exhibits Anubis with another figure, and the legend  $\text{IA}\Omega \text{ }\Phi\text{EPEN}\Phi\text{EP}\Omega$ .\* When thus placed in juxtaposition with each other, there can be little doubt, I think, that the characters in the upper line of the plate in our Museum, are of the same class as those on Matter's gem. But to what system of writing they belong, or what is their meaning, is altogether uncertain. The lower line being in Greek characters is sufficiently legible, PHNEBENNOVTH. At the time when these inscriptions were made, the Coptic had no alphabet of its own.

I was induced to seek the interpretation of this word in the Coptic language, and to suppose that it might have a reference to one of the old divinities of Egypt, from the circumstance that the Gnostic doctrines and emblems are known to have been derived from the Egyptian metaphysics and theology, as well as from the theosophy and cabalistic doctrines of the Jews. They exhibit a strange mixture of Paganism, Judaism, and Christianity, such as only Alexandria could have produced,

\* The second letter is C in Matter's engraving, but this is probably an error for E. The whole may perhaps stand for PHRENOFRE, in Coptic, "Phre is good."

where professors of all three religions dwelt together, and seem to have endeavoured to harmonize their respective systems.\* Along with *Jao*, *Jao Sabaoth* and the names of Jewish angels, the Gnostic gems exhibit the names and figures of the Egyptian gods, Osiris, Isis, Athor, Phre, Chon, Chnouphis, Tat, (Thoth) Anubis, Harpocrates.† We also find words which are undoubtedly Coptic, mixed sometimes with Greek, sometimes with Hebrew words in the inscriptions on these stones. Thus one of them,‡ exhibits Chnouphis (Agathodæmon) under the form of a serpent with a lion's head encircled with rays, and the legend, *Chnouphis Anok Seme(s) eilamps(e)*; "I am Chnouphis; the Sun (Christ the True Light) has shone." Here *anok* is the Coptic pronoun of the first person; *semes* the Hebrew for sun, and *είλαμψε* the aorist of *λάμπω* augmented after the analogy of *λαμβάνω* and *λαγχάνω*. On another,§ Chnouphis is represented under the form of a mummy with a radiated head, and the legend is *Anok Chol Chnouphis*. Matter remarks the addition of *Chol* to the name, and says "cette designation speciale peut repondre à ce que la composition offre d'extraordinaire." *Chol*, in fact, signifies in Coptic, "amicire, involvere fasciis vel alia re cadaver"|| and is therefore exactly descriptive of the peculiarities of this representation. One of the gems called Abraxas from exhibiting these letters, (which, according to the Greek notation, made up 365), has on the reverse, the words *Ταλα, αραιο, δαραρο, ντοκ, νβαι*, which Bellermand, by whom it has been published, renders from the Coptic, Protector, Creator, Ruler, Thou, Lord. I know not on what authority their sense is assigned to the two first words; but *oer* is very common in the hieroglyphic texts, in the sense of *great*,\*\* chief,

\* "Qui Serapin colunt Christiani sunt; et devoti sunt Serapi qui se Christi Episcopus dicunt." Hadrian in Vopisc. Saturn. 8. Gnosticism was already rife in Egypt in the reign of Hadrian. See Sharpe's Egypt under the Romans, p. 67.

† Examples of all these may be seen in the plates to Matter's Work, before referred to.

‡ Matter, plate ii. a.

§ Matter, plate ii. 10.

|| Peyron Lex. Copt. sub voce.

\*\* Ἄρσηρις, the title of the god of Apollinopolis, is *Har-oer*, Horus the great.

and *ntok nebai* are Coptic for "thou (art) Lord." My own knowledge of the Coptic is very limited, and its remains are scanty, but I doubt not that other legends of the Gnostic gems which have been considered unintelligible would furnish a meaning, if examined by a Coptic scholar. It is true that some of their combinations appear to have no significance, having been made for some mystical, arithmetical, or cabalistical reason; but these generally betray themselves at once.

Among the titles of Amun, the chief and primary god of the old Egyptian theology, one of not unfrequent occurrence is "Lord of the gods."\* It is expressed hieroglyphically by characters of well known import, the lower half of the circle, and the sacrificial hatchet, tripled to denote the plural. Other titles of similar import, as "king of the gods," "ruler of the gods," "lord of heaven," "lord of the worlds," are also ascribed to him. "Lord of the gods," expressed in the Coptic language, would be PH-NEB-N-NOUT, *Ph* being the Coptic article† *the* (as in Phra, Pharaoh the king) *Neb*, lord, *n* the sign of the genitive and *nout*, god. To whom this title was meant to be applied, whether to Jehovah, to Christ, or to the god to whom it properly belonged, I will not undertake to decide. The three first characters in the upper line bear some resemblance to an abbreviation of  $\chi\rho\iota\sigma\tau\phi$ , but it is not usual to find on these Gnostic remains any direct recognition of Christianity.

Nor is it easy to say what was the precise use to which this curious relic was meant to be applied. Some of the Gnostic gems were certainly used as amulets, that is as protections against the power of disease, an evil eye or an evil dæmon. Thus we find on one a prayer to "keep the stomach of Proclus sound;" on another to "guard Vibia Paulina from all evil dæmons."‡ The Egyptian religion had degenerated into astrology

\* See Rosellini Mon. Stor. iii. p. 1. p. 145, 146. The example there given is from the obelisk of Karnak. See also Champollion's Dict. Hierog.

† P, the more common form, becomes Ph before B, M, N, and R. See Peyron Lex. Copt.

‡ Matter, Planche x. 6, 2A, 8.

and magic, and much of both these entered into Gnosticism. In the Museum of Leyden is a bilingual papyrus, which has been published by Professor Reuvens, containing several hundred names, written in the demotic and hieratic characters of Egypt, and also in Greek. Many of these coincide with the names of the Sephiroth, as given by the Cabalists. The learned editor attributes the MS. to the Marcosians, a sect of the Gnostics founded by Marcus, a native of Palestine, but a teacher at Alexandria, and supposes it to have been designed for thaumaturgical purposes. It appears from a passage in Lucian, that there was nothing which dæmons so much dreaded as a spell in the Egyptian language. A house at Corinth had been haunted by a dæmon, and many exorcists had in vain endeavoured to cast him out. Arignotus the Pythagorean, however, undertook the task and was shut up in the house all night. The dæmon made his appearance, squalid, with long hair, and black as night, and changed himself into a dog, a bull, and a lion, thinking to frighten Arignotus as he had done his predecessors. But Arignotus, picking out the most horrible of his spells, in the Egyptian language, soon compelled him to vanish through a dark corner.\* There is a passage quoted by Jablonski † from Michael Psellus, which may afford us another conjecture, although he is speaking of an Assyrian, not an Egyptian usage.‡ “*Tesseris quibusdam infandisque nominibus mysticisque literis, in sacerdotalibus bracteis se ipsos sanctificantes, substratum illud incorporeis copiis lumen perspexerant.*” It appears from this passage, that plates of metal inscribed with mystic characters were used by devotees to obtain a sort of beatific vision of the incorporeal light.

If the indications now enumerated do not deceive us, we have in this relic, brought to light after so many centuries, a record of a very early heresy in the Christian church. It adds

\* Lucian Philopseudes Op. V. 7, p. 284 ed. Bip.

† Panth. Egypt. Lib. v. Cap. 5, p. 172.

‡ “Canopi, prætextu sacerdotalium literarum, (ita enim appellant antiquas Egyptiorum literas) magicæ artis erat pene publica schola.” (Ruffinus, quoted by Jablonski, p. 142.)

another to the curious proofs which our Museum contains of the variety of superstitions which prevailed among the inhabitants of the Roman cities. Fabricated in Egypt, it may have been lost, to the dismay of its owner, in Eburacum, or placed in his tomb. The views which the remains of antiquity open to us, into ancient manners and opinions, will teach us to regard the objects of a Museum as something more than curiosities to be gazed at for their strangeness, or even admired for their skilful workmanship. They are historical evidences, sometimes illustrating and confirming the information which historical literature conveys, sometimes supplying its deficiencies ; for without this mysterious plate, how should we have known that the Egyptian Γυῶσις had made its way into this distant region of the north ?



PROCEEDINGS  
OF THE  
YORKSHIRE PHILOSOPHICAL SOCIETY,  
1849 TO 1852.

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*On the Direction of Drifting of the Sandstone Beds of the Oolitic Rocks of the Yorkshire Coast.\*—By HENRY CLIFTON SORBY, ESQ., F. G. S. Read June, 1850.*

The author first said that the only point in which he claimed originality, was that relating to the direction of drifting of these rocks; and before he entered on that part of the subject, he would glance at their connexion with the other rocks which occur on the coast. Beginning with the lias and inferior oolite, we have a series of fine grained deposits, containing many marine remains, and nothing to indicate that land was very near; which nevertheless could not have been very far removed, or else probably we should not have found in them crocodilian reptiles. Above these we have a mass of sandstones and shales, which do not contain marine remains, but on the contrary, shells of fresh water origin, and many plants in such a state of preservation as to shew that they cannot have been drifted far. Then we have the so called grey limestone, which is however very sandy, representing the great oolite of the south, with many marine remains, and over it deposits of sandstone and shale, similar to those below. Over these we have again a

\* The conclusion obtained by Mr. Sorby as to the northward source of the drifted materials in the Oolite series of Yorkshire, is in accordance with the views published on this subject by Prof. Phillips, from more general considerations.

number of beds, with nothing but marine remains. It would therefore appear that at the period of the deposition of the lower sandstones and shales, what had previously been sea had become subject to the domain of fresh water, which drifted from some neighbouring land many terrestrial plants—that the sea for a while had again the sway—then fresh water a second time, and at length the sea became sole possessor, and continued so for a long period. These facts the author thought could be best explained by supposing that an elevation of the sea's bed took place after the period of the inferior oolite—then a depression of no great extent, during which the grey limestone was accumulated—then a second elevation; and finally, after the deposition of the upper sandstones and shales, a permanent subsidence. The point which he had specially investigated was the direction from which the above sandstones had been drifted.

This can be ascertained in almost every sandstone rock by carefully attending to certain points of structure. If a bed be deposited in tranquil water, the strata are level and horizontal; but, if a slight current is present, ripples are formed on its surface. These, on an average, tend perpendicular to the line in which it moves; and hence, by observing the direction of the ripples in any rock, the line in which the current ran is known, but not the side from which it came. If, however, its velocity be somewhat greater, the sand is drifted along at the bottom, and produces a kind of rippled structure, in which the layers are thrown down on that side of the ripples towards which the current flows. This constitutes what the author calls ripple drifted, and, by it, the direction from which the current came can be ascertained. When this ripple drift becomes very large, from the increased velocity of the current, it passes into what is commonly called false bedding; when layer after layer is thrown down in advance of the others, inclined at an angle of about 30' to the true bedding. This is what the author calls drift bedding. When these peculiarities of structure are seen in progress in modern sand drifts, it is to be observed that the slope of the talus is not invariably perpendicular to the line of

the current, but varies considerably on each side of it, was to give rise to complicated, deltoid deposits. Hence, to ascertain the true line of the current, it is necessary to take the mean of numerous observations. By applying these principles to the study of the oolitic sandstone of the Yorkshire coast, the author found that the drift bedding indicated that the currents had been from points varying from E.N.E. to W.N.W., the mean being from N.N.W. to N.W. The direction indicated by the ripple marks varied from N.E. by E. to N.W. by W., the mean being from N. to N.N.W. Whence the mean derived from these two sources combined is N.N.W. Now, unless this direction of drifting be due to some interference of currents, a point which the author had not investigated, we must, he thought, look N.N.W. for the land on which the plants grew which are now found fossil in the sandstone and shales; and if we do so, the first we come to is that part of Scotland near Aberdeen. This however, he considered, was much too remote to account for the fact of ferns being found fossil with the spores still in the thecæ, or for the deposits containing only fresh water remains; and therefore that we are compelled to admit—that at the period of the deposition of the rocks containing them—a tract of land existed, which has since been permanently submerged. This tract was probably composed of igneous and metamorphic rocks similar to those of Scandinavia; for at the base of the lower sandstones there is a deposit of pebbles composed of rocks of that character. Hence we may suppose that Scandinavia then extended considerably farther west than it does now; and that in the last movement of elevation of that peninsula, this portion was, so to speak, left behind at the bottom of the north sea.

*On the Sclerotic Ring of the Eyes of Birds and Reptiles.*—  
By THOMAS ALLIS, ESQ. *Read April, 1849.\**

When I began the preparation of Bird's Skeletons, I was not aware that their eyes were furnished with this bony apparatus, and when first informed of the fact, it was mentioned only with reference to rapacious birds.

By accident the sclerotic bones of an Eagle Owl became detached from each other in consequence of over boiling; I was induced to articulate them together and to count them; and on finding it stated in Cuvier's *Comp. Anatom.* that the usual number of these bones was twenty, whereas in the bird in question they only amounted to fifteen, I was led to proceed further, and after dissecting minutely the sclerotic ring of upwards of seventy birds, taken from every great division, the greatest number I have found in any instance is seventeen; and the smallest number eleven; except in a single instance, in which the ring is composed of but one single bone. I have sixty-seven species on these tablets: of these, the ring consists in one instance of only a single bone; three have eleven bones; eight have twelve; twelve have thirteen; twenty have fourteen; nineteen have fifteen; two have sixteen; and two have seventeen. I have consulted several authors, but have met with little respecting either the bones themselves or their functions; the little I have found is contained in the following extracts; after giving which, I shall mention concisely those particulars in which the results of my own researches differ from the statements made by these authors.

Blumenbach *Comp. Anat.*, 296, says, "the eyes of birds of

\* This paper was composed in 1837, and in that year was read to the British Association assembled in Liverpool. At the request of the Yorkshire Philosophical Society, in whose Museum the Allisian Collection of Comparative Osteology is preserved, it was read to that Society in 1849. In the interval between these dates, Mr. Allis had the satisfaction of shewing to the authors of the splendid publication of the Dodo and its kindred, that their inference of the place of Dodo among the Columbidae was entirely confirmed by the independent evidence of its Sclerotic Bones.—(*Note by Editors.*)

prey have a peculiar form ; which is similar to that of the chalice or cup used in the communion service ; the cornea which is very convex forms the bottom of the cup, and the posterior segment of the sclerotica resembles the cover ; this peculiar form arises from the curvature and length of the bony plates, which, as in all other birds, occupy the front of the sclerotica, lying close together and overlapping each other ; these bony plates form in general a slighty convex ring ; being long and curved in the Accipitres, they form a concave ring, which gives the whole eye-ball the above-mentioned form."

Dr. Albers observes, " that the orbit is very imperfect in birds, and that this bony ring may supply the deficiency."

Carus says, " the firm and elastic sclerotica of birds, the structure of which has been very accurately examined by Albers, consists of three laminæ, between the outer and middle ones of which the osseous circle is inserted anteriorly. This structure, which already exists in some fishes and amphibia, is common to all the species of birds ; it is composed of from fifteen to seventeen oblong quadrangular laminæ of bone, with the corners rounded off ; forming in some cases simply a smooth circle, in others a more or less prominent cylinder ; in Owls this cylinder is particularly long."

Cuvier says, " the sclerotic of birds is divided into laminæ, the interval of which receives a circle of small, thin, hard, oblong bones, which lie over each other like tiles, and which give to the anterior part of the eye a great degree of firmness and a fixed form. These ossicula are almost flat in the greater number of birds ; in which they form only an annular disk of little convexity ; they are slightly arched and concave externally in the Horned Owl, in which they form a short tube in the form of a truncated cone ; they are usually twenty in number." Cuvier further states, that " the sclerotica determines the shape of the eye ; it can therefore be really soft and flexible only in animals that have the eye nearly globular ; that is to say in man and quadrupeds ; because their sclerotic assumes of itself that shape, in consequence of the nearly uniform resistance made by the fluids contained in the eye to the pressure of its

coats ; but in all animals that have the eye more removed from a spherical form, as the Cetacea, Fishes and Birds, that membrane is supported by hard accessory parts ; or by a greater solidity of texture and a more considerable thickness."

In a Paper in the third vol. of the Zoological Journal, Wm. Yarrell says, "the eyes of birds are much larger in proportion than those of quadrupeds, and exhibit also two other peculiarities." One of these peculiarities is "a ring of thin bony plates enveloped in the sclerotic coat. Comparative Anatomists do not seem to be agreed as to the means by which birds obtain their powers of vision ; whether by alteration in the *form* or *situation* of the crystalline lens, or by both ; either or both of which, the greater quantity of aqueous humour which birds are known to possess, would seem to facilitate, and the existence of a muscle attached to the inner surface of the bony hoop of the sclerotica and inserted by a tendinous ring into the internal surface of the Cornea, as shewn by Mr. Crampton in the Annals of Philosophy for 1813, by which the convexity of the Cornea may be altered, gives a still greater scope of action." He afterwards says, "the external convex form of the Golden Eagle will be found to extend through all the species of every genus of British birds, except the Owls, in all of which it is concave."

In speaking of the sclerotic bones generally, Dr. Buckland, page 174, of his Bridgewater Treatise, says, "In living animals these bony plates are fixed in the exterior or sclerotic coat of the eye, and vary its scope of action by altering the convexity of the cornea ; by their retraction they press forward the front of the eye and convert it into a microscope ; in resuming their position when the eye is at rest, they convert it into a telescope."

As regards the form of the bony ring, Blumenbach certainly is not correct when he says, that "in the accipitres it is concave externally ;" that is only true of the nocturnal accipitres, as stated by my friend Wm. Yarrell ; nor is the latter correct in saying that every species of British birds has it convex like the Golden Eagle. The Woodcock, Spoonbill, Caprimulgus, and some others have merely a flat and narrow ring towards the

external edge of the eye, and certainly no degree of convexity at all approaching to that of the Golden Eagle. The shape of the individual bones is so various that it cannot be given in any general term; the external edge of the bones is in most instances beautifully serrated; but the serration is not visible in the bony ring; but in the separate bones which were boiled until the extraneous matter would wipe off easily with a cloth, it is very perceptible; the rings would separate if boiled to the same extent, and in cleaning them with a knife I have not been able to preserve the serrations.

As regards the structure of the rings, the bones generally overlap each other, there being a depression on the under side of one bone, and a precisely corresponding one on the upper side of its neighbour, so that when overlapping each other, they present nearly an even surface, both exteriorly and interiorly; having one bone with both depressions on its inner surface, and forming an exterior key to the arch, and one having both depressions on its outer surface, and forming an internal key; in some instances there are two external keys; and in several instances, instead of one bone overlapping the other, they interlock into each other in a curious and beautiful manner.

I take it for granted that the principal function of these sclerotic rings is, as stated by Cuvier, to preserve that peculiar form of the eye which is adapted to the nature and wants of the animals. But in nature's laboratory there is no prodigality or waste of power; and these rings having, in the first place, fulfilled the duties for which they were primarily created, still subserve the wants of the animal in other ways, and under circumstances and in situations to which those classes of animals which have not such rings are not exposed.

I allude to their use as a defence and protection to the eye. On examining these specimens it will be found that those birds which are peculiarly pugnacious; those which have a peculiarly rapid flight; and those which, from the extended variation of altitude at which they fly, are exposed to great or very unequal degrees of atmospheric pressure, have the sclerotic rings of larger size, of more convex form, and the individual bones of

greater strength than the weak-billed or low-flying birds ; and the same remark holds good with the water birds, on comparing those that take their food on or near the surface of the water, with those that dive ; among which class are to be found the strongest bones.

Another subsidiary use, is that of altering the convexity of the Cornea as mentioned by Dr. Buckland.

I have eight specimens of diurnal Rapacidæ ; the Golden Eagle affords an example of a bony ring of greatly increased strength in a bird that takes a lofty flight and follows its prey with great velocity : it is a smaller bird than the white tailed Eagle, yet the bony ring is larger, more convex, and the individual bones much stronger. The King Vulture and Lammergeyer have the rings stronger than their congeners ; and the Secretary also has it very strong, but with its habits of flight I am unacquainted ; of this series, three have fourteen bones, four has fifteen, and one has sixteen.

Here are five specimens of Owls ; two belong to the great Horned Owl : one set of the detached bones shews the upper, the other set the under surface of these bones ; the principal use of the elongated tube appears to be, to bring the eye beyond the loose feathers of the head ; if the bones were no longer than in the generality of birds, the eyes would be so buried in the feathers that the bird would only be able to see objects straight before it. The bones of the Barn Owl are not larger than those of the little Scops, though the bird itself is nearly three times as large ; they are not required to be so long in the Barn Owl on account of the large circular disk of close and short feathers that surrounds each eye. The bones of the Owls, instead of being, as stated in general terms by Cuvier, hard, flat and thin, are very soft and porous ; as is also the case in those of the Caprimulgidæ, and those of the great Horned Owl are also of considerable thickness.

I have seven specimens of Gallinidæ ; one of these has thirteen bones ; four have fourteen ; one has fifteen ; and one has seventeen ; the ring in most of these is strong.

Of Columbidae, I have three specimens, each of which has



eleven bones: the bones are strongest in the rapid flying Carrier Pigeon, though the Crowned Pigeon is three times its size. The ring of the Dove is small and the bones feeble.

I have a specimen of each of the *Struthious* birds; the *Ostriches* have each fifteen bones; the *Cassowary* and *Emew* thirteen each; the latter affords a beautiful example of the interlocking of the bones into each other.

I have nine specimens of *Grallæ*: of these, one is imperfect; one has thirteen bones; five have fourteen; and two have fifteen. In the soft-billed birds of this class the rings are small and feeble, and larger in the sharp-billed specimens, though not so strong in these as in some other classes.

Of *Scansorial* birds, I have seven specimens: of these, five have twelve bones, and two have thirteen. The *Parrot*, *Macaw* and *Cockatoo* have the rings particularly small and feeble; owing, I presume, to the skulls of the *Psittacidæ* being provided with perfect bony orbits, which, I believe, no other class of birds possess. The *Woodpecker* has the ring as strikingly large; indeed it has, with only one exception, a larger portion of the eye protected by the sclerotic ring than any other bird I have met with in proportion to its size, and as I find nothing in its mode of flight, or in the altitude at which it flies to make it require this extra protection, I am induced to think that it is intended to protect the eye from injury from the small chips of wood which it scatters in all directions when searching for its insect prey, or boring the tree for the construction of its nest.

Here are seven specimens of swimming birds: one has twelve bones; one fourteen; four have fifteen; and one has sixteen. The *Ducks*, *Geese* and *Swans* which seek their food at or near the surface of the water, have the rings remarkably weak and small; while the *Gulls*, which descend into the water with some degree of force, have them considerably stronger.

I have ten specimens of diving birds, including the *Pelican*, which though not strictly a diving bird, I have included in this group on account of its affinity with the *Gannet*; of these, two have twelve bones; three have thirteen; three have fourteen; and two have fifteen. In the *Pelican*, which takes its food

near the surface, we find merely a feeble annular disk ; while the other birds of the group have the ring very strong and convex : the Gannet, which takes its prey by descending perpendicularly from a considerable height, with great force into the sea, has the individual bones stronger than any other bird I have met with :—the true divers (which dive from the surface to a considerable depth after their prey) have their ring very strong and convex, though the individual bones are much weaker than in the Gannet. The Guillemot, Razor-bill and Sea Parrot, also have the ring very convex, especially the latter.

Here are ten specimens of Passerine birds : two have thirteen bones ; five have fourteen ; one fifteen ; one uncertain ; and one (the *Podargus Humeralis*) differs from all other instances I have met with ; the bony ring being composed of one single bone, instead of a series of plates. The European Night Jar has a very weak ring without any convexity ; while its Australian congener has the ring of considerable size ; though the bone itself is of a soft and porous texture like the Owls. The Swift has the ring larger, stronger and much more convex than any other bird at all approaching its own size. The Kingfisher's is also large for the size of the bird ; and the bones of the Humming-bird are also strong.

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Of Reptiles, Cuvier says, (Comp. Anatom. translation, page 396,) “There are similar laminæ in the sclerotic of the Chameleon and several other Lizards ; but they do not form the anterior disk of the eye ; but merely surround the lateral part.” Here are bones of two species of Turtle and three species of Lizards ; Serpents and Frogs appear destitute of them. The bones of the Turtle are less symmetrical than those of birds or Lizards, and form a nearly flat disk, having but little convexity.

Out of three species of Lizard, which are all I have examined, and of which the Chameleon is one, in two cases the ring, in opposition to the statement of Cuvier, does form the anterior disk of the eye, and that as completely as in any class of birds :

in the Iguana, these bones (from which the figure in Dr. Buckland's Bridgewater treatise was taken) are remarkably broad at their inner edge, and overlap each other to a greater extent than I have observed in any birds, thereby greatly increasing the strength of the convex ring; the external edge forms a kind of pedestal or foot; in birds the external edge is generally the broadest. The Chameleon has the bones of the same form as the Iguana, but the pedestal is less produced; the ring is very strong; and to increase still further the strength of the eye's defence, the bones are covered with the external skin of the animal, leaving only the pupil exposed. The Gecko has the ring of very slight texture, and it merely surrounds the lateral part of the eye, as described by Cuvier; the single bones (of which I have only preserved one specimen) are very slight, and from back to front exhibit a considerable curve. In fossil Saurians, these bones are of a very different and less complex form than those of the Iguana or Chameleon; they appear to be merely oblong bones of uniform shape, forming a protection to the front of the eye; they are beautifully figured as placed in the head of the Ichthyosaurus in Dr. Buckland's treatise; and I have here, from our Geological collection, as beautiful an example of these bones in situ.

*Note.*—The Paper was illustrated by anatomical preparations of the sclerotic rings. Figures of many examples may be seen in the plates which accompany this volume, with explanations thereto.

*The Compotus or Yearly-Account Roll of Thomas Syngleton, Monk, Keeper of the common stock of Spices (Custos Communie Specierum), and Chamberlain of the Monastery of St. Mary, York, from the Sunday after the feast of St. Michael the Archangel, 1528, to the same Sunday in the year 1529.—With Remarks and Notes by the REV. C. WELLBELOVED.*

This curious document was presented to the Yorkshire Philosophical Society in the year 1849, by Mr. Henry Sotheran, who stated that it had been lately found in a chest in the vestry of a church in the neighbourhood of York.

It is written on eight skins of parchment, forming a Roll exactly 12 feet long and 12 inches broad; and, with the exception of a small portion at the beginning, in a good state of preservation. To the foot of the Roll are attached five small quarto leaves of paper, containing particulars of expenses attending the celebration of four Anniversaries, and of the day of 'O Oriens.'

At the back of the roll is a list of tenants and others who were in arrear in their payments; and also an inventory of effects under the especial charge of the Computant.

The Abbey of St. Mary was the most wealthy of the Monasteries in Yorkshire; the clear annual revenue at the Dissolution being estimated at no less than £1670. The Annual expenditure was, no doubt, proportionate to this income. But the receipts and expenditure accounted for by Thos. Syngleton, amount not to a twelfth part of that income. To understand the nature of this document, therefore, it must be observed, that in every monastery, a certain number of the brethren, who were called *Obedientiarii*, were appointed to superintend each a separate department in the establishment, having tithes and other revenues assigned to them to defray the necessary expenses of that department. At the end of the year, which began and ended at some great festival, each of these officers delivered to a superior officer, as the Bursar, or

the Prior, an account of what he had received, and of what he had expended during the year. From these the superior officer formed one large roll, which, together with the smaller upon which it was formed, was deposited in the treasury or the munificent room of the Monastery.\* Many of these larger rolls have been published; but few, if any, of the smaller rolls have been brought to light. On this, if on no other account, this document drawn up by a Monk of St. Mary's, will be regarded as curious and valuable.

The writer of this roll describes himself as holding the offices of *Camerarius* and *Custos Communiæ Specierum*. The *Camerarius*, or Chamberlain, was an officer who belonged to every Monastic House; although the nature and extent of his duties may not have been uniformly the same. But no such officer as the *Custos Communiæ Specierum* is mentioned in the ordinary lists of Monastic officers; nor is it noticed by Du Cange or Carpentier or Rêyner. The title denotes that he had the care of the common stock of the Spicery. Spices appear to have formed a large and important portion of Monastic stores; comprehending a great variety of articles; as ginger, pepper, mace, cloves, cinnamon, raisins (great raisins), currants (small raisins), prunes, almonds, liquorice, sugar, sugar candy, barley-sugar, sandars, turnsole, comfits, cakes, &c. &c. They were generally expensive articles, yet, as Dr. Whitaker has observed with respect to the Monks of Bolton Priory, "they were used with no sparing hand."† The Bursar of the Monastery of Durham accounts for the delivery to the Cellarer, in one year of more than 130 lbs. of pepper, of 105 lbs. of currants, of 48 lbs. of prunes, of 55 lbs. of sugar, in addition to a large supply of honey. The charge for spicery in that year was above £38, when a sheep was sold for 2s. and an ox for from 14s. to 16s.

Bp. Kennet says that spices were sometimes taken as parts of account payment. Instances of this occur in the Durham Book; where four tenants pay a portion of their arrears due to the Monastery in saffron; grants also were sometimes made

\* Durham Household Book. Preface by the Rev. J. Raine, p. viii.

† History of Craven, p. 403.

with the express purpose of providing for the purchase of spices : thus we find among the grants to the Abbey of St. Mary, York, half a carucate of land in Sezevaus given by Astinus de Pykering, "*ad emendas species.*"

It is remarkable that in this Computus by the Custos Communie Specierum no charge is made for the purchase or for the delivery of spices ; excepting in the celebration of four Anniversaries, and the day of ' O Oriens.'

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COMPOTUS FRATRIS THOME SYNGLETON MONACHI AC CUSTODIS  
COMMUNIE SPECIERUM ET CAMERARII MONASTERII  
SANCTE MARIE EBOR. A DOMINICA PRIMA POST FESTUM  
SANCTI MICHAELIS ARCHANGELI ANNO DOMINI MILESIMO  
QUINGENTESSIMO VICESIMO OCTAVO USQUE AD EANDEM  
DOMINICAM ANNO DOMINI UT SUPRA VICESIMO NONO.

ARRERAGIA NULLA. Quia idem computans solvit ad manus Domini Abbatis pro pede compoti ultimi anni ut patet per manus ejusdem scriptoris in fine compoti anni precedentis xxx<sup>s</sup>. iiij<sup>d</sup>. ob.

LIBERE FIRME. In primis, Idem computans respondet de lxxvj<sup>s</sup>. iiij<sup>d</sup>. ob. receptis de liberis firmis infra tempus compoti, viz., de Priore Sancti Andree<sup>1</sup> Ebor. ij<sup>s</sup>. De Magistro Maneriorum<sup>2</sup> pro terris apud Wotlas<sup>3</sup> x<sup>s</sup>. De Willelmo Gyllame pro terris in Huntynghon<sup>4</sup> vij<sup>s</sup>. i<sup>d</sup>. ob. De Willelmo Pawling ibidem v<sup>s</sup>. De Domino le Scrope de Bolton pro terris ibidem iiij<sup>s</sup>. vj<sup>d</sup>. De Johanne Joye pro terris ibidem xx<sup>d</sup>. De Roberto Wywell pro terris in Thornton<sup>5</sup> xij<sup>d</sup>. De heredibus Willelmi Jacob pro terris ibidem iiij<sup>d</sup>. De Eleemosinario Monasterii pro terris

<sup>1</sup> The Priory of St. Andrew was situated in Fishergate, adjoining the Ouse. It belonged to the order of Monks of Sempringham or Gilbertines; and was founded in 1202 by Hugh Merdac, Archdeacon of Cleveland, for 12 Canons.

<sup>2</sup> Probably the person who had the general oversight of the manors or lands belonging to the Monastery: a general land bailiff, with local bailiffs under him.

<sup>3</sup> Thornton Watlas, near Bedale.

<sup>4</sup> Huntington, near York.

<sup>5</sup> Most probably Thornton Steward, in Wensleydale.

ibidem *iiij*<sup>d</sup>. De Sacrista Monasterii pro terris in Aclam<sup>1</sup> *xvj*<sup>d</sup>.  
 De Domino le Scrope de Bolton pro terris in Warmsworth<sup>2</sup> *iiij*<sup>s</sup>.  
 De Abbate de Thornton<sup>3</sup> pro terris in Burnham<sup>4</sup> et Thornton *xl*<sup>s</sup>.  
 Summa *lxxvj*<sup>s</sup>. *iiij*<sup>d</sup>. ob.

PENSIONES. Et de *x*<sup>l</sup>. *xv*<sup>s</sup>. *iiij*<sup>d</sup>. receptis de pensionibus infra  
 tempus compoti, viz., de Ecclesia de Hornsey<sup>5</sup> *c*<sup>s</sup>. De Priore  
 de Wedderall<sup>6</sup> *xiiij*<sup>s</sup>. *iiij*<sup>d</sup>. De Priore Sancte Bege<sup>7</sup> *xiiij*<sup>s</sup>. *iiij*<sup>d</sup>.

<sup>1</sup> Probably Aclam on the Wolds.

<sup>2</sup> Near Doncaster, where the Scropes had a considerable estate. Hunter's S. Yorkshire, i. 126.

<sup>3</sup> Thornton Curtis, in the Northern part of Lincolnshire, south-east of Barton, where a Monastery of Augustin-Canons was established in 1139 by William le Gros, Earl of Albermarle; by whom or by one of his descendants, it is probable, these lands were granted to the Abbey of St. Mary.

<sup>4</sup> In the Isle of Axholme, Lincolnshire, near Epworth.

<sup>5</sup> The Church, Manor and Mere of Hornsea were granted to St. Mary's Abbey, at its foundation by Odo, Earl of Champagne, and his son Stephen. In the year 1260, the Abbot of Melsa (Meaux, in Holderness) claimed a right of fishing in the Southern part of the Mere; which was resisted by the Abbot of St. Mary's. The Abbot of S. Meaux therefore brought a writ of right against the Abbot of St. Mary's; and it was resolved that the dispute should be settled by wager of battle. "On the day appointed for the combat, the parties and their champions appearing properly accoutred, the fight commenced, and lasted, according to the narrator, from morning till evening, when the champions of the plaintiff were beaten to the ground, and the fishery ultimately relinquished by the Abbot of Meaux." Poulson's History of Holderness, vol. i, p. 319. This account is taken from the *Liber Melsæ*. The date, 1260, refers this remarkable transaction to the second year of the Abbacy of Simon de Warwiek; but it is not noticed by him in his Annals of the Abbey.

<sup>6</sup> Wetherall, in the county of Cumberland. A priory was founded here in the reign of William Rufus, by Ranulf de Meschin, Earl of Cumberland, and given by him as a Cell to the Abbey of St. Mary, York, in the time of Stephen of Whitby, the first Abbot. The establishment consisted of a Prior and eight Monks.

<sup>7</sup> St. Bees in Cumberland; so named after Bege, a pious woman, who founded a convent there for nuns, in the seventh century. Having been destroyed by the Danes, it was refounded as a Priory for Monks by William, son of Ranulph de Meschin, in the time of Hen. I., and given by him as a Cell to the Abbey of St. Mary, York, on condition that a Prior and at least six Monks should be maintained there by the Abbot and convent. It is observable that Leland in his Itinerary speaks of St. Bees as being in the neighbourhood of Lincoln; "in one of the east suburbs, scant half a mile from the Mynsterc." He refers, no doubt, to the cell of St. Magdelene. The editors of the last edit. of Mon. Ang. observe, "Leland was probably right as to the situation of the cell, but wrong as to its name, which he seems to have confounded with St. Bees in Cumberland."

De Priore de Romburgt<sup>1</sup> vj<sup>s</sup>. viij<sup>d</sup>. De Priore Sancti Martini<sup>2</sup> vj<sup>s</sup>. viij<sup>d</sup>. De Vicario de Mydleton Tyas vj<sup>s</sup>. viij<sup>d</sup>. De Magistro Maneriorum pro Anniversario Richardi Grussy<sup>3</sup> xxvj<sup>s</sup>. viij<sup>d</sup>. et Roberti Bulloke xl<sup>s</sup>. Summa x<sup>s</sup>. xv<sup>s</sup>. iiij<sup>d</sup>.

PORCIONES CUM DECIME.<sup>4</sup> Et de xj<sup>li</sup>. xviiij<sup>s</sup>. iiij<sup>d</sup>. receptis de porcionibus infra tempus compoti, viz., de Kneton<sup>5</sup> iiij<sup>li</sup>. et Medleton<sup>6</sup> xiiij<sup>s</sup>. iiij<sup>d</sup>. De Multon<sup>7</sup> xl<sup>s</sup>. De Scruton xiiij<sup>s</sup>. iiij<sup>d</sup>. De Westanfild<sup>8</sup> x<sup>s</sup>. De Medleton<sup>9</sup> et Melmerby iiij<sup>s</sup>. iiij<sup>d</sup>. De Andreby<sup>10</sup> et Swaynby<sup>11</sup> xv<sup>s</sup>. et de Warmsworth liij<sup>s</sup>. iiij<sup>d</sup>. Summa xj<sup>li</sup>. xviiij<sup>s</sup>. iiij<sup>d</sup>.

FIRME AD VOLUNTATEM. Et de <sup>xx</sup>iiijxiiij<sup>li</sup>. iiij<sup>s</sup>. xj<sup>d</sup>. receptis de firmis tenencium ad voluntatem infra tempus compoti, viz., in Ebor vj<sup>s</sup>. In vico Sancte Marie ix<sup>li</sup>. xvij<sup>s</sup>. iiij<sup>d</sup>. In Bowthome xij<sup>li</sup>. xvij<sup>s</sup>. et pro Magistro Collegii ibidem<sup>12</sup> ex concessione Domini Abbatis<sup>13</sup> v<sup>s</sup>. In Gillygait xxix<sup>s</sup>. viij<sup>d</sup>. In Clyfton vj<sup>li</sup>. xiiij<sup>s</sup>. vj<sup>d</sup>. et pro magistro Collegii ibidem ex concessione

<sup>1</sup> Rumburgh, in Suffolk. A small monastery founded about the time of the Norman Conquest by Almar or Agelmar of Elmham, and Thurstan, Abbot of St. Benet Hulm. It was given as a Cell to the Abbey of St. Mary, York, in the reign of Hen. I., by Stephen Earl of Richmond and Bretagne, or by Alan his son.

<sup>2</sup> A chapel dedicated to St. Martin near Richmond, was given with the church of Thornton and other possessions, about the year 1100, to the Abbey of St. Mary, by Wyman, Steward of the Earl of Richmond. Upon which the Monks of St. Mary's sent a colony of 9 or 10 of their number, with a Prior, to erect a Priory. It thus became a Cell to the house at York, to which it was subordinate in spiritual matters, while in others it claimed to be independent. It became richly endowed, keeping the original number of monks, and paying a yearly pension, as an acknowledgement of subjection, to the Abbey of St. Mary.

<sup>3</sup> Or, Growsse, as in another part of the Computus.

<sup>4</sup> i. e., Portions out of churches, with certain tythe rents of tenants at will.

<sup>5</sup> Under Kneeton, near Middleton Tyas.

<sup>6</sup> Middleton Tyas.

<sup>7</sup> Moulton, near Middleton Tyas.

<sup>8</sup> West Tanfield.

<sup>9</sup> Middleton Quernhow.

<sup>10</sup> Ainderby Quernhow.

<sup>11</sup> Near Pickhill, in Swaledale.

<sup>12</sup> 'Ibidem' is to be connected with 'et' and the clause translated thus: "And there (i. e. out of the same place, viz. Bowthome) v<sup>s</sup>. for the Master of the College." And thus also in the following similar clauses. There was but one Collegium, and that was within the precincts of the Abbey; but the Master of the College appears to have had his endowments or money payments from various portions of the conventual property.

<sup>13</sup> Probably as being specially granted for this purpose by the Abbot. •



Domini Abbatis  $\text{iii}^{\text{li}}$ .  $\text{xv}^{\text{s}}$ .  $\text{xj}^{\text{d}}$ . In Roelyff  $\text{iii}^{\text{li}}$ .  $\text{vj}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . In Huntyngton  $\text{xxvij}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . In Thornton  $\text{xvj}^{\text{s}}$ .  $\text{vj}^{\text{d}}$ . In Buttercram  $\text{iii}^{\text{s}}$ .  $\text{vj}^{\text{d}}$ . In Myton  $\text{xxxij}^{\text{s}}$ .  $\text{vj}^{\text{d}}$ . In Dunsfurth  $\text{x}^{\text{s}}$ . In Elyngthrope<sup>1</sup>  $\text{lx}^{\text{s}}$ . In Huddeswell  $\text{xij}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . In Kirkby Rawynswath<sup>2</sup>  $\text{ix}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . In Smeeton  $\text{xiii}^{\text{s}}$ . In Hornby<sup>3</sup>  $\text{xxj}^{\text{s}}$ . In Appleton super Wysk  $\text{vii}^{\text{s}}$ . In Spawnton  $\text{vii}^{\text{s}}$ .  $\text{vj}^{\text{d}}$ . In Hutton juxta Spawnton  $\text{xxij}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . In Lastingham  $\text{v}^{\text{s}}$ .  $\text{x}^{\text{d}}$ . In Appleton juxta Spawnton  $\text{vij}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . et pro Magistro Collegii ibidem ex concessione Domini Abbatis  $\text{xij}^{\text{s}}$ . In Kirkby Misper-ton  $\text{xii}^{\text{s}}$ .  $\text{iii}^{\text{d}}$ . In Scamston  $\text{vj}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . In Syxendalle<sup>4</sup>  $\text{vii}^{\text{s}}$ . In Fymber  $\text{xj}^{\text{s}}$ . In Kirkby Hundelsdalle<sup>5</sup>  $\text{vj}^{\text{s}}$ . In Rudston  $\text{xiii}^{\text{s}}$ .  $\text{vj}^{\text{d}}$ . In Southrope<sup>6</sup>  $\text{xij}^{\text{s}}$ .  $\text{vj}^{\text{d}}$ . et pro Magistro Collegii ibidem, ex concessione Domini Abbatis  $\text{xij}^{\text{s}}$ .  $\text{x}^{\text{d}}$ . In Cotyngwith  $\text{xij}^{\text{s}}$ .  $\text{ij}^{\text{d}}$ . In Dyghton  $\text{xxx}^{\text{s}}$ . In Fulfurth  $\text{lvj}^{\text{s}}$ .  $\text{iii}^{\text{d}}$ . et pro Magistro Collegii ibidem ex concessione Domini Abbatis  $\text{x}^{\text{s}}$ . In Kelfeld  $\text{ij}^{\text{s}}$ . In Over Poppleton  $\text{c}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . et pro Magistro Collegii ibidem, ex concessione Domini Abbatis  $\text{xii}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . In Nether Popleton  $\text{lxiii}^{\text{s}}$ .  $\text{j}^{\text{d}}$ . et pro Magistro Collegii ibidem, ex concessione Domini Abbatis  $\text{lix}^{\text{s}}$ .  $\text{xj}^{\text{d}}$ . In Knapton  $\text{xlviij}^{\text{s}}$ . In Brynles<sup>7</sup>  $\text{lxvj}^{\text{s}}$ .  $\text{vii}^{\text{d}}$ . In Hufflett<sup>8</sup>  $\text{vii}^{\text{s}}$ .  $\text{iii}^{\text{d}}$ . In Warmsworth  $\text{cvj}^{\text{s}}$ .  $\text{x}^{\text{d}}$ . In South Fereby<sup>9</sup>  $\text{lxxix}^{\text{s}}$ .  $\text{iii}^{\text{d}}$ . In Bekfeld et Kermound<sup>10</sup>  $\text{xxvj}^{\text{s}}$ .  $\text{j}^{\text{d}}$ . et pro uno tenemento in Lyncoln  $\text{j}^{\text{s}}$ .  
Summa  $\text{iii}^{\text{xx}}$  $\text{ii}^{\text{li}}$  $\text{xii}^{\text{li}}$ .  $\text{ii}^{\text{s}}$ .  $\text{xj}^{\text{d}}$ .

FOEDUM SIGILLI COMMUNIS. Et de  $\text{xii}^{\text{s}}$ .  $\text{iii}^{\text{d}}$ . receptis pro Sigillo communi in presentacione ecclesie de Belton<sup>11</sup> in comitatu Lincoln ad Dominum Edmundum Metcalff.

Et de  $\text{xii}^{\text{s}}$ .  $\text{iii}^{\text{d}}$ . receptis pro sigillo communi in presentacione

<sup>1</sup> Ellinthorpe, near Boroughbridge.    <sup>2</sup> Kirkby-Ravensworth, in Richmondshire.

<sup>3</sup> Probably the village so called near Great Smeaton.

<sup>4</sup> Sixteendale, now Thixendale on the Wolds, near Aclam.

<sup>5</sup> Probably Kirby Underdale.

<sup>6</sup> Near the south end of Hornsea Mere.

<sup>7</sup> Brindles, near Howden.

<sup>8</sup> Ousefleet, on the Southern bank of the Ouse, in the parish of Whitgift.

<sup>9</sup> In Lincolnshire, near Barton on Humber.

<sup>10</sup> These are also in Lincolnshire.

<sup>11</sup> In Lincolnshire, near Epworth, Isle of Axholm. The Abbey held several churches and considerable grants of land in this county.

ecclesie de Overton<sup>1</sup> in comitatu Ebor. ad Dominum Andream Rowthe.

Summa xxvj<sup>s</sup>. viij<sup>d</sup>.

REPARACIONES FORINSECA.<sup>2</sup> Et de ij<sup>s</sup>. receptis de harbagio Sartrini<sup>3</sup> hoc anno dimisso Ricardo Dyatson.

Et de xx<sup>s</sup>. receptis de Jacobo Gelstroe pro gressisma<sup>4</sup> unius tenementi in Fulfurth nuper in tenuta Ricardi Barwyk pro ix annis hoc anno primo.

Et de x<sup>s</sup>. receptis de Thoma Bartyndall de Fymbber pro gressisma tenementi sui pro ix annis hoc anno primo.

Et de x<sup>s</sup>. receptis de Johanne Mawmane de Thornton pro gressisma unius tenementi nuper in tenuta patris sui pro ix annis hoc anno primo.

Et de x<sup>s</sup>. receptis de precio unius equi venditi Roberto Sadler de Eboraco hoc anno.

Et de xx<sup>s</sup>. receptis de precio unius millene fagatorum venditorum apud Dyghton Roberto Schales de Eboraco.

Summa lxxij<sup>s</sup>.

SUMMA OMNIUM RECEPTIONUM <sup>xx</sup>vjiij<sup>li</sup>. xij<sup>s</sup>. vj<sup>d</sup>. ob.

De quibus,

PENCIONES CONFRATRUM. Idem computans petit allocari pro pencionibus solutis xxxix confratribus nostris ad festum Pentecostes quolibet capiente xxvj<sup>s</sup>. viij<sup>d</sup>. et non sacerdotibus<sup>5</sup> quolibet capiente xiiij<sup>s</sup>. iiij<sup>d</sup>. . . . . xlviij<sup>li</sup>. vj<sup>s</sup>. viij<sup>d</sup>.

<sup>1</sup> Near York, one of the earliest grants to the Abbey by Will<sup>m</sup> Rufus. Here the Abbot had a Mansion.

<sup>2</sup> REPAIRS WITHOUT. But this must be a mistake of the writer, as it is perfectly inapplicable to the following items.

<sup>3</sup> The Sartrinum or the Sartrina, as it is afterwards written, was the tailor's office: and harbagio (herbaggio) Sartrini is supposed to mean the herbage of a small close surrounding that office, which must therefore have stood detached from the other monastic buildings. That it was within the general enclosure of the Monastery is evident from a subsequent entry. Two shillings paid by Dyatson for the herbage was, at the period to which this roll belongs, the rent usually paid for an acre of meadow land.

<sup>4</sup> Gressisma. The more usual form of the word is 'gersuma,' as in Du Cange. It signifies "a sum of money paid as *an earnest* upon purchasing a piece of ground, or upon entering on a lease, or upon any other occasion when a payment in hand is stipulated for." *Rev. J. Raine, Glossary to The Priory of Finchale.*

<sup>5</sup> The Novices in the following lists.

Et in pencionibus solutis xxxij et dimidio confratribus nostris ad festum Michaelis quolibet capiente xii<sup>s</sup>. iiij<sup>d</sup>. . . xxj<sup>ii</sup>. xiiij<sup>s</sup>. iiij<sup>d</sup>.

Et solutis scolaribus Cantabrigie studentibus pro<sup>1</sup> officio comunie specierum xl<sup>s</sup>. et Camerarii xxvj<sup>s</sup>. viij<sup>d</sup>. pro anno futuro ut in annis precedentibus lxxvj<sup>s</sup>. viij<sup>d</sup>.

Summa lxxij<sup>ii</sup>. vj<sup>s</sup>. viij<sup>d</sup>.

PENTECOSTES.

| EX PARTE DOM. ABBATIS.  | EX PARTE DOM. PRIORIS. <sup>2</sup>                        |
|---|--|
| Fr. Johannes Rypley xxvj <sup>s</sup> . viij <sup>d</sup> .         | Fr. Will. Forest xxvj <sup>s</sup> . vj <sup>d</sup> .     |
| Fr. Th. Byrdlyngton xxvj <sup>s</sup> . viij <sup>d</sup> .         | Fr. Th. Stawlay xxvj <sup>s</sup> . vj <sup>d</sup> .      |
| Fr. Ric. Sherburne xxvj <sup>s</sup> . viij <sup>d</sup> .          | Fr. Will. Burton xxvj <sup>s</sup> . vj <sup>d</sup> .     |
| Fr. Nic. Burnyshton xxvj <sup>s</sup> . vj <sup>d</sup> .           | Fr. Th. Syngleton xxvj <sup>s</sup> . vj <sup>d</sup> .    |
| Fr. Will. Walton xxvj <sup>s</sup> . vj <sup>d</sup> .              | Fr. Will. Conerdail xxvj <sup>s</sup> . vj <sup>d</sup> .  |
| Fr. Rob. Paddy xxvj <sup>s</sup> . vj <sup>d</sup> .                | Fr. Th. Hartley apud                                       |
| Fr. Will. Cokermouth xxvj <sup>s</sup> . vj <sup>d</sup> .          | Lincoln xxvj <sup>s</sup> . vj <sup>d</sup> .              |
| Fr. Joh. Lawson xxvj <sup>s</sup> . vj <sup>d</sup> .               | Fr. Joh. Poyll xxvj <sup>s</sup> . vj <sup>d</sup> .       |
| Fr. Will. Hapton xxvj <sup>s</sup> . vj <sup>d</sup> .              | Fr. Joh. Whytt xxvj <sup>s</sup> . vj <sup>d</sup> .       |
| Fr. Rad. Hartley <sup>3</sup> xxvj <sup>s</sup> . vj <sup>d</sup> . | Fr. Guyd. Oswoldkyrk xxvj <sup>s</sup> . vj <sup>d</sup> . |
| Fr. Ric. Newell xxvj <sup>s</sup> . vj <sup>d</sup> .               | Fr. Pet. Stanley xxvj <sup>s</sup> . vj <sup>d</sup> .     |
| Fr. Will. Fyley xxvj <sup>s</sup> . vj <sup>d</sup> .               | Fr. Joh. York xxvj <sup>s</sup> . vj <sup>d</sup> .        |
| Fr. Joh. Cawoode xxvj <sup>s</sup> . vj <sup>d</sup> .              | Fr. Joh. Byrkhed xxvj <sup>s</sup> . vj <sup>d</sup> .     |
| Fr. Th. Eshe xxvj <sup>s</sup> . vj <sup>d</sup> .                  | Fr. Th. Mars xxvj <sup>s</sup> . vj <sup>d</sup> .         |
| Novicii.  | Fr. Ric. Hornsey xxvj <sup>s</sup> . vj <sup>d</sup> .     |
| Fr. Edm. Metcalf xiiij <sup>s</sup> . iiij <sup>d</sup> .           | Fr. Rob. Lowthrope xxvj <sup>s</sup> . vj <sup>d</sup> .   |

<sup>1</sup> These scholars could not have been studying at Cambridge in order to prepare themselves for the offices of Spicerer and Chamberlain, as the expression here seems to imply. But supposing a comma to be placed after 'studentibus' and taking 'pro' in a sense somewhat unusual, the meaning of the clause will be, that the scholars received xl<sup>s</sup>. from the Monastery *on the part of* the office or department of the Spicerer, and xxvj<sup>s</sup>. viij<sup>d</sup>. *on the part of* that of the Chamberlain. They probably received more from some other department; for at an earlier period the exhibition to a Student at one of the Universities from Whalley was £5: and that sum was nearly doubled to enable him to take his bachelor's degree.

<sup>2</sup> This division of the brethren probably means that part of them were under the Abbot's, and part of them under the Prior's superintendence.

<sup>3</sup> He was afterwards made Prior of Wetherall; which office he held till the Dissolution of the Priory.

|                  |                            |                     |                                       |
|------------------|----------------------------|---------------------|---------------------------------------|
| Fr. Nic Cowper   | xiijs. iiij <sup>d</sup> . | Fr. Joh. Whytfeld   | xxvj <sup>s</sup> . vj <sup>d</sup> . |
| Fr. Th. Richmund | xiijs. iiij <sup>d</sup> . | Fr. Rob. Bowtham    | xxvj <sup>s</sup> . vj <sup>d</sup> . |
| Fr. Joh. Gayll   | xiijs. iiij <sup>d</sup> . | Fr. Joh. Clyfton    | xxvj <sup>s</sup> . vj <sup>d</sup> . |
|                  |                            | Novicii.            |                                       |
|                  |                            | Fr. Joh. Grason     | xiijs. iiij <sup>d</sup> .            |
|                  |                            | Fr. Jac. Fullthrope | xiijs. iiij <sup>d</sup> .            |
|                  |                            | Fr. Rog. Nelson     | xiijs. iiij <sup>d</sup> .            |

Capita xxxix.

## MICHAELIS.

| EX PARTE DOM. ABBATIS. | EX PARTE DOM. PRIORIS.     |                       |                            |
|------------------------|----------------------------|-----------------------|----------------------------|
| Fr. Th. Stawley        | xiijs. iiij <sup>d</sup> . | Dominus Prior         | xx <sup>s</sup> .          |
| Fr. Th. Byrdlyngton    | xiijs. iiij <sup>d</sup> . | Fr. Will. Forest      | xiijs. iiij <sup>d</sup> . |
| Fr. Ric. Sherburne     | xiijs. iiij <sup>d</sup> . | Fr. Th. Syngleton     | xiijs. iiij <sup>d</sup> . |
| Fr. Tho. Hartley       | xiijs. iiij <sup>d</sup> . | Fr. Joh. Whytt        | xiijs. iiij <sup>d</sup> . |
| Fr. Nic. Burnyshton    | xiijs. iiij <sup>d</sup> . | Fr. Guyd. Oswoldkyrk, |                            |
| Fr. Joh. Lawson        | xiijs. iiij <sup>d</sup> . | apud Lincoln          | xiijs. iiij <sup>d</sup> . |
| Fr. Will. Hapton       | xiijs. iiij <sup>d</sup> . | Fr. Petrus            |                            |
| Fr. Rad. Hartley       | xiijs. iiij <sup>d</sup> . | Fr. Joh. York         | xiijs. iiij <sup>d</sup> . |
| Fr. Ric. Newell        | xiijs. iiij <sup>d</sup> . | Fr. Joh. Byrkhed      | xiijs. iiij <sup>d</sup> . |
| Fr. Will. Fyley        | xiijs. iiij <sup>d</sup> . | Fr. Th. Mars          | xiijs. iiij <sup>d</sup> . |
| Fr. Joh. Whytfeld      | xiijs. iiij <sup>d</sup> . | Fr. Ric. Hornsey      | xiijs. iiij <sup>d</sup> . |
| Fr. Th. Eshe           | xiijs. iiij <sup>d</sup> . | Fr. Rob. Lowthrope    | xiijs. iiij <sup>d</sup> . |
| Novicii.               |                            | Fr. Joh. Cawoode      | xiijs. iiij <sup>d</sup> . |
| Fr. Edm. Metcalff      | xiijs. iiij <sup>d</sup> . | Fr. Rob. Bowtham      | xiijs. iiij <sup>d</sup> . |
| Fr. Nic. Cowper        | xiijs. iiij <sup>d</sup> . | Fr. Joh. Clyfton      | xiijs. iiij <sup>d</sup> . |
| Fr. Th. Richmund       | xiijs. iiij <sup>d</sup> . | Novicii.              |                            |
| Fr. Joh. Gayll         | xiijs. iiij <sup>d</sup> . | Fr. Joh. Grason       | xiijs. iiij <sup>d</sup> . |
|                        |                            | Fr. Jac. Fullthrope   | xiijs. iiij <sup>d</sup> . |
|                        |                            | Fr. Rog. Nelsson      | xiijs. iiij <sup>d</sup> . |

Capita xxxii et dim.<sup>1</sup>

<sup>1</sup> Thirty-two persons and a half, sounds strangely. There are thirty-three persons in the list, including the Prior, but one of them, Fr. Petrus, (Stanley) receives nothing. The allowance therefore is granted to thirty-two. But the Prior's allowance is xx<sup>s</sup>, which exceeds xiijs. iiij<sup>d</sup>. received by the others, by one half. The sum accounted for by Th. Singleton is equal therefore to thirty-two allowances of xiijs. iiij<sup>d</sup>. each and one half.

SOLUCIONES AD EXTRA. Et in liberis firmis solutis, viz., Receptoribus Monasterii pro officio: Granatori iiiij<sup>s</sup>. et Magistro Maneriorum xli<sup>s</sup>. xj<sup>d</sup>. Sacriste xiiij<sup>s</sup>. x<sup>d</sup>. Elemosinario vj<sup>s</sup>. viij<sup>d</sup>. Magistro parve communic<sup>1</sup> x<sup>s</sup>. Heredibus Domini Fythught<sup>2</sup> xij<sup>d</sup>. Phylippo Sewell v<sup>s</sup>. Priori de Wotton<sup>3</sup> vj<sup>s</sup>. Magistro Christofero Danby xvij<sup>s</sup>. Edmundo Dalton v<sup>d</sup>. Bursario Monasterii xij<sup>s</sup>. viij<sup>d</sup>. Elemosinario Monasterii pro Anniversariis parentum nostrorum<sup>4</sup> vj<sup>d</sup>. et Forestariis de Galtres ad manus Will. Emerson ij<sup>s</sup>. Infirmario vj<sup>s</sup>. vj<sup>d</sup>.

Summa vj<sup>h</sup>. viij<sup>s</sup>. vj<sup>d</sup>.

CUSTOS ANNIVERSARIORUM.<sup>5</sup> Et in expensis factis in Anniversario Rob. Bullock ut patet per billam huic compoto annexam ..... xxvij<sup>s</sup>. viij<sup>d</sup>.

Et in pecunia soluta in Anniversario Dom. Joh. Lewlyng, viz., Dom. Abbati xx<sup>d</sup>. Priori Monasterii xvj<sup>d</sup>. Precentori<sup>6</sup> xij<sup>d</sup>. et xxxvij Confratribus, quolibet capiente vj<sup>d</sup>. ..... xxij<sup>s</sup>. ij<sup>d</sup>.

Et in pecunia soluta confratribus ad altare S<sup>i</sup> Rumbaldi<sup>7</sup> tribus diebus septimane per annum integrum qualibet septimana ad

<sup>1</sup> In every Monastery there was a Domus Communis or Common House, a sitting Room, in which the monks assembled when not engaged in study or devotion. The remains of such a room were discovered in the excavations of the Monastery of St. Mary, York, and the fire-place belonging to that room is still to be seen, as it was found, in the lower part of the Museum. It appears to have been a large and splendid room. We learn from this entry that there was another room of the same description, but smaller, and under the care of its own officer.

<sup>2</sup> For Fitzhugh. The Fitzhughs were Lords of Ravensworth in Richmondshire, where they flourished from the time of Edw. III. to that of Hen. VIII. *Clarkson's Hist. of Richmond*, p. 55.

<sup>3</sup> Watton in Holderness: Vetadun of Bede: probably the most ancient religious house in Yorkshire: founded about 686, as a Convent of Benedictine nuns. Having been destroyed in the Danish invasions, it was refounded, as a Gilbertine Priory, by Eustachius Fitz-John, about 1150.

<sup>4</sup> Anniversaria, were yearly obits, or solemn services for the dead. It is very doubtful for whom the rites here referred to were performed; whether for the parents of the Accountant only, or for those of all the brethren.

<sup>5</sup> The officer of the Monastery under whose superintendence these annual rites were performed, and whose charges are here accounted for.

<sup>6</sup> Nic. Burnyshton, as appears from one of the bills annexed to the Compotus.

<sup>7</sup> More properly Romaldi. This Saint was born at Ravenna, about the middle of the tenth century, and was founder of the order of Camaldolites.

vj<sup>d</sup>., pro anima dicti Johannis, ut patet per billam huic compoto annexam<sup>1</sup> ..... xxvj<sup>s</sup>.

Et in Anniversario Dom. Will. Seuos<sup>2</sup> nuper Episcopi Dunelm. et ejusdem parentum, ut patet per billam huic compoto annexam ..... xx<sup>s</sup>. viij<sup>d</sup>.

Et in pecunia soluta in Anniversario Dom. Will. Lambert Magistri Collegii,<sup>3</sup> viz., Dom. Abbati iij<sup>s</sup>. iiij<sup>d</sup>. Priori Monasterii xx<sup>d</sup>. et xxxviij Confratribus quolibet capiente xij<sup>d</sup>. ut patet per billam huic compoto annexam ..... xliij<sup>s</sup>.

Et in elemosina data pauperibus eodem die ..... xiiij<sup>s</sup>.

Et in pane de lez Mayne ij<sup>s</sup>. et in vino v<sup>s</sup>. dato Dom. Abbati et conventui ..... vij<sup>s</sup>.

Summa vij<sup>ii</sup>. xix<sup>s</sup>. vj<sup>d</sup>.

VINUM CUM PANE. Et solutis Magistro parve Communie pro xx diebus vini, viz., In Festis Omnium Sanctorum : Sancti Bege : Sancti Martini : Conceptionis Beate Marie : Nativitatis Domini : Sancti Stephani : Circumcisionis Domini : Pasche : Ascencionis Domini : Corporis Christi : Sancti Vincencii nuper incepti :<sup>4</sup> Sancte Anne : tertio die Assumpcionis Beate Marie :

<sup>1</sup> This reference to a bill at the end of the Computus is a mistake, probably of the scribe employed by Th. Singleton ; it belongs to the preceding entry.

<sup>2</sup> Severus, (*Godwin De Præsul.*) His name is written in various ways. He was Abbot of St. Mary's from 1464 to 1502. In 1496 he was elected Bishop of Carlisle, and by a special Indulgence from the Pope held his Abbey *in commendam*. He was at the same time made Warden of Merton College, Oxford, and Provost of Eton ; but being chosen Bishop of Durham in 1502 he vacated his Abbacy and went to Durham. He held that See about 2 years, dying in the year 1505. Gent says he was buried in the Abbey over which he had presided.

<sup>3</sup> This no doubt was Wm. Lambert, Clerk, Master of the College of Glayndorp, and Vicar of the Parish Church of Gayneford in the Bishopric of Durham, who made his will May 28th, 1480, and directed his body to be buried within the Monastery of St. Mary, York, before the altar of St. Nicholas, and against the tomb of Wm. Staveley, late fellow monk there. His will was proved Nov. 23, 1485. *Torre, Regist.-Test. Arch. Tho. Rotherham, 253.*

<sup>4</sup> Vincent Ferrier, a Dominican Friar, born at Valencia in Spain, in 1357. At the desire of Hen. VI. he preached as a Missionary in the chief towns of England, Scotland, and Ireland. He died in 1419, and was canonized in 1455 ; but the Bull was not published till 1458, seventy years before the writing of this Computus. He is therefore said to be '*nuper inceptus.*' Three other Vincents appear in the Kalendar of Saints.

Anniversariis Abbatum, viz., Joh. Cotyngham,<sup>1</sup> Thome Molton,<sup>2</sup> Alani Nesse,<sup>3</sup> Thome Spoffurth,<sup>4</sup> Thome Wrathell,<sup>5</sup> Johannis Gyllyng,<sup>6</sup> Ricardi Growsse . . . . . v<sup>h</sup>.

Et in pane de lez Mayne dato in Anniversario Domini Thome Spofforth, et in die Sancte Anne quolibet die ij<sup>s</sup>. . . . . iij<sup>s</sup>.

Summa v<sup>h</sup>. iij<sup>s</sup>.

STIPENDIA FAMULORUM. Et in stipendio famulorum, viz., Ric<sup>l</sup> Symson servientis officii<sup>7</sup> pro termino Pasche et Michaelis xl<sup>s</sup>.

Et in precio unius paris ocrearum dati eidem ex consuetudine pro officio camerarii . . . . . vj<sup>s</sup>.

Et in stipendio Antonii Wyzzett viij<sup>s</sup>. Magistri Scissorum<sup>8</sup> pro termino Pasche et Michaelis infra tempus compoti cum convencione<sup>9</sup> facta cum eodem in grosso pro campanagio<sup>10</sup> xxx<sup>s</sup>. iij<sup>d</sup>. et liberatura<sup>11</sup> v<sup>s</sup>. quam solebat habere in Refectorio . . xliij<sup>s</sup>. iij<sup>d</sup>.

Et pro filo albo et nigro empto per eundem hoc anno . . viij<sup>s</sup>.

Et in stipendio Johannis Wyzzett pelliparii<sup>12</sup> a festo Michaelis usque festum Pasche cum campanagio etc. ut supra . . . . . xx<sup>s</sup>.

<sup>1</sup> John Cotyngham was chosen Abbot in 1438, having been Prior of the Monastery. He died in 1464.

<sup>2</sup> Or Thomas de Molton, a Monk of St. Mary's, elected Abbot in June 1331. He died in 1359.

<sup>3</sup> A Monk of St. Mary's, the immediate predecessor of Thomas de Molton in the Abbacy, which he held from 1313 to 1331.

<sup>4</sup> Or Spofforth. Having been Abbot of St. Mary's from the year 1405, he was chosen in 1422 Bishop of Hereford. He voluntarily abdicated that See after he had held it 26 years. Ho was one of the Ambassadors sent by Hen. V. to the Council of Constance.

<sup>5</sup> Or Thomas de Warthill, elected in 1244, died 1258.

<sup>6</sup> John de Gyllyng, first a Monk of St. Mary's, then Prior of the Cell of Wetherall, and elected Abbot of St. Mary's in 1303. Ho died in 1313.

<sup>7</sup> The Accountant's own servant, who assisted him in the duties of his office.

<sup>8</sup> Master of the tailors.

<sup>9</sup> "Cum convencione" must here mean, 'according to agreement.'

<sup>10</sup> Campanagium (or as it should be uniformly written,) 'companagium' signifies, 'all kinds of food eaten with bread.'

<sup>11</sup> Liberatura, whence our word 'livery,' generally denotes 'cloth delivered to servants and retainers as part of their wages,' but the word is also used, as in this instance, in a more extended sense, implying whatever was delivered to persons so situated, whether clothing or food, in part of payment. (*Raine*) A. Wyzzett received for his wages 43<sup>s</sup>. 4<sup>d</sup>. of which 8<sup>s</sup>. were paid in money; the rest, according to agreement, in food, a portion of which was supplied in the Refectory.

<sup>12</sup> The skinner.

Et in stipendio Christoferi Pyke servientis in Sartrina pro termino Pasche et Michaelis cum campanagio etc. ut supra . . . . . xxvj<sup>s</sup>. viij<sup>d</sup>.

Et stipendio Will. Sperling servientis ibidem pro eisdem terminis ut supra . . . . . xxvj<sup>s</sup>. viij<sup>d</sup>.

Et in stipendio sutoris cum oleo per eundem empto, ut in annis precedentibus, ut supra . . . . . xx<sup>s</sup>.

Et in stipendio dato eidem pro coloracione ocrearum confratrum . . . . . iij<sup>s</sup>. iiij<sup>d</sup>.

Et in stipendio communis lotricis<sup>1</sup> pro termino Pasche et Michaelis . . . . . xiij<sup>s</sup>.

Summa x<sup>li</sup>. ij<sup>s</sup>.

EXPENSÆ CIRCA LAMPADES IN DORMITORIO. Et in xxvij lagenis Olei emptis de Roberto Marchall precium lagene xiij<sup>d</sup>. infra tempus compoti . . . . . xxvij<sup>s</sup>.

Et in v lagenis emptis de Magistro Shaw precium lagene xiij<sup>d</sup>. infra tempus compoti . . . . . v<sup>s</sup>.

Et in v lampadibus x<sup>d</sup>. cum cirpis<sup>2</sup> ij<sup>d</sup>. emptis infra tempus compoti . . . . . xiij<sup>d</sup>.

Et in stipendio fratris Ric. Hornsay custodis lampadarum in dormitorio . . . . . iij<sup>s</sup>. iiij<sup>d</sup>.

Summa xxxvj<sup>s</sup>. iiij<sup>d</sup>.

EXPENSÆ CIRCA LEVACIONEM PECUNIARUM.<sup>3</sup> Et in expensis dicti computantis et servientis officii circa levacionem pecunie in Comitatus Lincoln et Rychmund et Ebor. infra tempus compoti . . . . . xxiiij<sup>s</sup>.

Summa patet.

EXPENSÆ IN STABULO CUM FERRURA EQUORUM.<sup>4</sup> Et solutis Johanni Wylson de Eboraco pro adjuvamine unius celle<sup>5</sup> diversis vicibus ij<sup>s</sup>. iiij<sup>d</sup>. Et solutis eidem pro duobus paribus

<sup>1</sup> The washer-woman. She had little or nothing else to wash, but napery and towels. No linen was worn by the brethren. "They had no sheets to their beds," says Whitaker, "nor shirts to their backs."

<sup>2</sup> Cirpis (scirpis) rushes, used for wicks.

<sup>3</sup> The collecting of money.

<sup>4</sup> The shoeing of horses.

<sup>5</sup> For the repairing of a saddle (sellæ).



stancilium<sup>1</sup> xj<sup>d</sup>. cum una postella<sup>2</sup> ij<sup>d</sup>. et uno pari stancellelorum<sup>1</sup>  
(*sic*) cum una antela<sup>3</sup> iij<sup>d</sup>. et duobus paribus singulorum<sup>4</sup> vj<sup>d</sup>. et  
pro uno freno ix<sup>d</sup>. empto infra tempus compoti . . . . . v<sup>s</sup>. vij<sup>d</sup>.

Et in ferrura equorum cum remocionibus infra tempus  
scripti . . . . . iiiij<sup>s</sup>.

Et in pane equino<sup>5</sup> cum aveno (*sic*) et fabis infra tempus  
compoti . . . . . xij<sup>d</sup>.

Et in falcatione unius acri feni vj<sup>d</sup>., cum factura vj<sup>d</sup>. et  
carragio feni ab Hurtbuk<sup>6</sup> versus monasterium vj<sup>d</sup>. infra tempus  
compoti . . . . . xviiij<sup>d</sup>.

Summa xij<sup>s</sup>. i<sup>d</sup>.

EMPCIO CLAVORUM. Et solutis pro v m<sup>l</sup>. double spykyngs  
emptis de Joh. Jacson precium m<sup>l</sup>. ij<sup>s</sup>. vj<sup>d</sup>., infra tempus com-  
poti . . . . . xij<sup>s</sup>. vj<sup>d</sup>.

Et in viij m<sup>l</sup>. syngle spykyngs emptis de eodem, precium  
m<sup>l</sup>. xxiiij<sup>d</sup>. . . . . xij<sup>s</sup>.

Et in viij m<sup>l</sup>. Stanbrode emptis de eodem, precium  
m<sup>l</sup>. xij<sup>d</sup>. . . . . viij<sup>s</sup>.

Et in vj m<sup>l</sup>. Scotseme emptis de Willelmo Jacson precium  
m<sup>l</sup>. xij<sup>d</sup>. . . . . vj<sup>s</sup>.

Et in c. sharplyngs emptis de Will. Jacson, precium . . c. x<sup>d</sup>.

Et in solutis pro iiiij m. lattbrode emptis de eodem Williel-  
mo<sup>7</sup> . . . . . iiiij<sup>s</sup>.

Summa xliij<sup>s</sup>. iiiij<sup>d</sup>.

#### EMCIO SERRARUM ET CLAVIUM<sup>8</sup> CUM LIGATURIS ET JUNCTURIS.<sup>9</sup>

<sup>1</sup> *Bis*. It is not known what these articles of horse furniture were.

<sup>2</sup> Probably, a crupper.

<sup>3</sup> A breast-band or breast-girth.

<sup>4</sup> For 'cingulorum,' girths.

<sup>5</sup> Probably, bran.

<sup>6</sup> In the *Registrum Marie*, it is stated that "John de Gylling, parson of Smyghton" (Great Smecton) "demised and released eleven messuages and ten acres of land in Bootham, and 12 acres of land and one of meadow in a place called Hurtebuke." This may have been the acre, the mowing of which, with the making and carrying of the hay, is here accounted for. In what part of Clifton Hurtbuk was, is not known.

<sup>7</sup> Spykyngs, sharplyngs, scotseme and lattbrode, were different kinds of nails; the last being used, as the name implies, in nailing laths. Stanbrode were slate-pins, and generally made of the leg-bones of sheep.

<sup>8</sup> Locks and Keys.

<sup>9</sup> It is uncertain what these articles were.

Et solutis Johanni Magham fabro pro tribus seris cum clavibus, precium unius cum clave v<sup>d</sup>. infra tempus compoti . . . . . xv<sup>d</sup>.

Et solutis Johanni Brampton fabro pro quatuor seris cum clavibus precium unius cum clavo v<sup>d</sup>. infra idem tempus . . xx<sup>d</sup>.

Et solutis Thome Sperlyng fabro pro tribus seris cum clavibus precium unius cum clavo v<sup>d</sup>. infra predictum tempus . . . . xv<sup>d</sup>.

Et solutis Johanni Magham fabro pro vj paribus juncturarum precium unius paris iiij<sup>d</sup>. et pro v parar<sup>1</sup> (*sic*) ligaturarum, precium unius iiij<sup>d</sup>. infra tempus compoti . . . . . iiij<sup>s</sup>. ij<sup>d</sup>.

Et solutis Johanni Bramton fabro pro quatuor paribus juncturarum precium unius iiij<sup>d</sup>. Et pro vj paribus ligaturarum precium unius paris iiij<sup>d</sup>. et pro viij paribus lez hespis et stapilis precium unius j<sup>d</sup>. infra tempus compoti . . . . . iiij<sup>s</sup>. viij<sup>d</sup>.

Summa xj<sup>s</sup>.

EMPCIO LATTARUM CUM FACTURA EARUNDEM. Et solutis Johanni Snaw de Eskryke pro laceratione ij m<sup>l</sup>. lattarum iiij<sup>s</sup>. cum carriagio a Dyghton<sup>2</sup> usque Monasterium xvj<sup>d</sup> infra tempus compoti . . . . . iiij<sup>s</sup>.

Summa patet.

SARRACIO MEREMII<sup>3</sup> CUM CARRIAGIO. Et solutis Johanni Johnson de Dyghton scindicione duorum lignorum . . . . . iiij<sup>d</sup>.

Et solutis Christofero Falle pro sarracione duorum lignorum . . . . . vj<sup>d</sup>.

Et solutis Johanni Jakson et Jacobo Gelstrobe de Fulforth pro carriagio quatuor carrectorum lignorum a Dyghton versus Monasterium . . . . . ij<sup>s</sup>. x<sup>d</sup>.

Summa iiij<sup>s</sup>. viij<sup>d</sup>.

EMPCIO CALCIS ET PLAUSTURE CUM CARRIAGIO TERRE ET SABULI. Et solutis Will<sup>o</sup> Newton pro duobus lez buschells plausture infra tempus compoti . . . . . vj<sup>d</sup>.

<sup>1</sup> Wrongly written for 'paribus.'

<sup>2</sup> Deighton, near Eskrick. Here the Abbot had a mansion. The mansion has long since disappeared and given place to a farmhouse, exhibiting within some interesting memorials of the age of James I., but the house is of a much more recent date. The moat that surrounded the Abbot's mansion remains nearly entire.

<sup>3</sup> Building timber. The term is here applied to two trees, the felling and the sawing of which cost 10 pence.

Et solutis uxori Magistri Thome Langton pro duobus carrectis calcis v<sup>s</sup>. iiij<sup>d</sup>. emptis de eadem cum carriagio xvj<sup>d</sup>. a Skeldergait versus Monasterium . . . . . vj<sup>s</sup>. viij<sup>d</sup>.

Et solutis Ric<sup>o</sup> Newton pro carriagio xl carrectarum terre et sabuli ad diversa tenementa precium carrecti ij<sup>d</sup>. infra dictum tempus . . . . . vj<sup>s</sup>. viij<sup>d</sup>.

Summa xiiij<sup>s</sup>. x<sup>d</sup>.

EMPCIO TEGULARUM.<sup>1</sup> Et solutis Will<sup>o</sup> Nawton pro ij<sup>c</sup> tegulis emptis de eodem infra tempus compoti . . . . . vj<sup>s</sup>.

Summa patet.

REPARACIONES INFRA MONASTERIUM. Et solutis Thome Day pro carpentaria super sartrinam in factura unius hostie<sup>2</sup> et tres fenestre (*sic*) per unum diem capiens vj<sup>d</sup>. . . . . vj<sup>d</sup>.

Et solutis Thome Cuke dalbanti<sup>3</sup> super stabulum officii<sup>4</sup> per unum diem et dimidium capiens per diem iiij<sup>d</sup>. . . . . vj<sup>d</sup>.

Et solutis Th. Day pro carpentaria in stabulo officii pro adjuvamine unius lez Bay<sup>5</sup> et aliis necessariis in eodem stabulo per unum diem . . . . . vj<sup>d</sup>.

Et solutis eidem Th. pro carpentaria in hospicio ex precepto Dom. Abbatis<sup>6</sup> . . . . . vj<sup>d</sup>.

Summa ij<sup>s</sup>.

REPARACIONES IN VICO S<sup>TE</sup> MARIE. Et solutis Will<sup>o</sup> Nawton tegulanti super domum Relicte Alexandri Thomson per duos dies capiens per diem pro se et servo x<sup>d</sup>. . . . . xx<sup>d</sup>.

Et solutis Th. Day pro carpentaria super domum ejusdem relicte Alexandri per unum diem et dimidium capiens per diem vj<sup>d</sup>. . . . . ix<sup>d</sup>.

<sup>1</sup> Tiles. "By tiles, observes Mr. Raine, must be understood, at that period (the beginning of the 16th century), in the north of England, slates."—*Glossary to the Durham Book*. But most probably the tiles purchased of Wm. Nawton, were manufactured of clay.

<sup>2</sup> For 'unius ostii,' one door.

<sup>3</sup> Plastering.

<sup>4</sup> The stable belonging to the office of the Chamberlain. <sup>5</sup> One of the stalls.

<sup>6</sup> The repairs of the hospitium, not regularly belonging, perhaps, to the department of the Chamberlain.

Et solutis eidem Th. pro carpentaria in factura unius hostie et duo fenestre (*sic*) in domo Christoferi Pyk, per unum diem capiens vj<sup>d</sup>. . . . . vj<sup>d</sup>.

Et solutis Johanni Anson pro carpentaria super domum Th. Clark per duos dies, capiens per diem vj<sup>d</sup>. . . . . xij<sup>d</sup>.

Et solutis Th. Cuke dalbanti super domum Th. Clark per unum diem et dimidium capiens per diem iiij<sup>d</sup>. . . . . vj<sup>d</sup>.

Et solutis Joanni Anson pro carpentaria super domum Antonii Lambe per unum diem et dimidium capiens per diem vj<sup>d</sup>. . . ix<sup>d</sup>.

Et solutis Th. Cuke dalbanti super domum predicti Antonii per unum diem et dimidium, capiens per diem iiij<sup>d</sup>. . . . . vj<sup>d</sup>.

Summa v<sup>s</sup>. ix<sup>d</sup>.

REPARACIONES IN BOWTHAM. Et solutis Will<sup>o</sup> Nawton tegulanti super domum Ric<sup>i</sup> Dyatson per quatuor dies pro se et servo capiens per diem vj<sup>d</sup>. . . . . ij<sup>s</sup>.

Et solutis eidem tegulanti super domum Elene Millner per unum diem capiens per diem pro se et servo . . . . . x<sup>d</sup>.

Et solutis Thome Cuyke dalbanti super domum relicte Nicholei Drawswarde per unum diem et dimidium, capiens per diem iiij<sup>d</sup>. . . . . vj<sup>d</sup>.

Summa ij<sup>s</sup>. iiij<sup>d</sup>.

REPARACIONES IN GYLLYGAIT. Et solutis Johanni Anson pro carpentaria super domum Ricardi Shapman per duos dies capiens per diem vj<sup>d</sup>. . . . . xij<sup>d</sup>.

Et solutis Thome Glover dalbanti super duos domos Ric. Shapman per grossum . . . . . vj<sup>d</sup>.

Et solutis Will<sup>o</sup> Nawton tegulanti super duos domos ejusdem Ricardi per unum diem et dimidium capiens per diem pro se et servo x<sup>d</sup>. . . . . xv<sup>d</sup>.

Et solutis eidem tegulanti super ij<sup>os</sup>. domos vacuos per unum diem pro se et servo . . . . . x<sup>d</sup>.

Summa ij<sup>s</sup>. viij<sup>d</sup>.

REPARACIONES IN CLYFTON. Et solutis Johanni Anson pro carpentaria super domum Ric. Skypsy per unum diem capiens per diem . . . . . vj<sup>d</sup>.

Et solutis Ric<sup>o</sup> Skypsy dalbanti super eundem domum per unum diem ..... iiiij<sup>d</sup>.

Summa x<sup>d</sup>.

EXPENSE MINUTE. In primis. In una tunica data computanti ex consuetudine pro labore ..... vj<sup>s</sup>. viij<sup>d</sup>.

Et in renovacione cerearum coram ymaginibus Sancte Trinitatis ij<sup>s</sup>. vij<sup>d</sup>. ob.: Sancte Bege ij<sup>s</sup>. iiiij<sup>d</sup>. et Sancte Ursule xvij<sup>d</sup>. ob. .... vj<sup>s</sup>. v<sup>d</sup>.

Et in cera empta pro sigillo commune infra tempus compoti ij<sup>s</sup>.

Et in expensis factis circa O Oriens,<sup>1</sup> ut patet per billam huic compoti (*sic*) annexam ..... xvj<sup>s</sup>. ob.

Et in ix ulnis panni linei emptis pro manutergiis in clauastro<sup>2</sup> precium ulnæ v<sup>d</sup>. .... iij<sup>s</sup>. ix<sup>d</sup>.

Et in fimbacione earundem per relictam Henrici Thomson vj<sup>d</sup>.

Et in regardis<sup>3</sup> datis confratribus Seneschallis Quadragesime<sup>4</sup> ex consuetudine ..... vj<sup>d</sup>.

Et solutis Magistro Mansell pro acquisitione j lez Whytwort<sup>5</sup> cum solucione facta Th. Watton de Sowthfereby in Comitatu Lincoln iiiij<sup>s</sup>. pro expensis apud Vicem Comitem Lincoln et pro acquisitione et copia unius lez Wort cum littera attornatûs viij<sup>s</sup>.

Et in solucione facta pro uno equo empto de fratre Will<sup>o</sup> Couerdale pro officio<sup>6</sup> ..... xij<sup>s</sup>.

<sup>1</sup> On the day of O Oriens, the 21st of December, and so called from the beginning of the Antiphon which was sung in the appointed service of that day. "O Oriens splendor lucis eternæ, et sol justitiæ, veni et illumina sedentes in tenebris et umbra mortis!" How beautifully appropriate to the shortest day in the year, and to the season then so near, commemorative of the birth of Him who was "the light of the world!"

<sup>2</sup> In the cloister, it is probable, where the common lavatory was usually placed.

<sup>3</sup> Presents of money; rewards.

<sup>4</sup> The priests engaged in the performance of certain religious offices during the forty days preceding the festival of Easter.

<sup>5</sup> Whytwort or whytword. This very uncommon word most probably means, 'an acquittance' corresponding with 'whittance' which not unfrequently is met with in that sense. In mediæval orthography, w or wh, is often used for qu. To what matters this acquittance related cannot be ascertained. The obtaining of this whytwort appears to have been attended with some trouble and expence: the charge being not less than that in the next entry, for the purchase of a horse.

<sup>6</sup> For the use of the accountant in the discharge of his duties.

Et in pergameno papiro et encausto pro isto compoto libri officii indenturarum acquietancium, et aliis necessariis.

Et pro scriptura hujus compoti et libri officii ..... ij<sup>s</sup>.

Et in pane de lez Mayne et vino datis auditoribus ad clausuram hujus compoti ..... vj<sup>s</sup>.

Summa lxiiij<sup>s</sup>. x<sup>d</sup>. ob.

ALLOCACIONES<sup>1</sup> IN FYSSHERGAIT. Et dictus computans petit allocari de ij<sup>s</sup>. de decasu<sup>2</sup> unius tenementi in Fysbergait quia in manu Domini per dimidium anni.

Summa patet.

VICUS SANCTE MARIE. Et de vj<sup>s</sup>. viij<sup>d</sup>. de decasu<sup>3</sup> unius tenementi in tenura Johannis Tyndal nuper xxvj<sup>s</sup>. viij<sup>d</sup>. modo sibi dimissi ad xx<sup>s</sup>.

Et de v<sup>s</sup>. de decasu unius tenementi in tenura Th. Cuyk nuper viij<sup>s</sup>. modo vj<sup>s</sup>. et in manu Domini per dimidium anni.

Et de xvij<sup>d</sup>. de decasu unius tenementi in tenura Will. Curtes ad vj<sup>s</sup>. quia in manu Domini per quarterium.

Et de xj<sup>s</sup>. de decasu unius tenementi in tenura Thome Clark quia in manu Domini per annum.

Et de ij<sup>s</sup>. decasu unius tenementi in tenura Mercialis Morland nuper ad viij<sup>s</sup>. modo vj<sup>s</sup>.

Et de iiiij<sup>s</sup>. de decasu unius tenementi nuper in tenura Relicte Symonis et Relicte Whytt, quia in manu Domini per annum.

Et de v<sup>s</sup>. de decasu unius tenementi in tenura Johannis Person quia in manu Domini per annum.

Et de v<sup>s</sup>. de decasu unius tenementi olim in tenura Johannis Alanson quia in manu Domini per annum.

Et de iij<sup>s</sup>. iiiij<sup>d</sup>. de decasu unius tenementi in tenura Thome Bawton nuper vj<sup>s</sup>. modo ij<sup>s</sup>. viij<sup>d</sup>.

<sup>1</sup> Allowances in the account of certain sums remitted to the tenants of the monastery and others.

<sup>2</sup> 'Decasus' means here, a falling off of the rent. The tenement in Fishergate had been "in manu domini," in the hand of the Lord Abbot, i. e. untenanted, for half a year; the accountant therefore claims an allowance in his account of two sillings.

<sup>3</sup> Here 'decasus' means, an allowance to the tenant; an abatement of the rent.

Et de ij<sup>s</sup>. vj<sup>d</sup>. de decasu unius tenementi in tenura Relicte Alex. Thomson, nuper iij<sup>s</sup>. modo iij et in manu Domini per dimidium anni.

Et de xvj<sup>d</sup>. de decasu unius tenementi in tenura Ric<sup>i</sup> Hesslynton nuper xij<sup>s</sup>. iij<sup>d</sup>. modo xij.

Et de iij<sup>s</sup>. viij<sup>d</sup>. de decasu unius tenementi in tenura Ric<sup>i</sup> Symson olim xvj<sup>s</sup>. viij<sup>d</sup>. et duo tenementa modo unum et ad xij<sup>s</sup>.

Summa lj<sup>s</sup>.

БОВТНОВМ. Et de iij<sup>s</sup>. iij<sup>d</sup>. de decasu unius tenementi in tenura Joh. Plumber nuper v<sup>s</sup>. modo iij<sup>s</sup>. iij<sup>d</sup>. et in manu Domini pro dimidio anni.

Et de ij<sup>s</sup>. de decasu unius tenementi in tenura Antonii Wyzett nuper x<sup>s</sup>. modo viij<sup>s</sup>.

Et de v<sup>s</sup>. de decasu unius tenementi in tenura Relicte Ric<sup>i</sup> Manser quia in manu Domini per annum.

Et de v<sup>s</sup>. de decasu unius tenementi in tenura Th. Glover quia in manu Domini per annum.

Et de iij<sup>s</sup>. de decasu unius tenementi nuper in tenura Johannis Loft ut patet per rentale, modo Infirmarius tenet.

Et de xx<sup>d</sup>. de decasu unius tenementi in tenura Relicte Harpham quia in manu Domini per dimidium anni, et ad iij<sup>s</sup>. iij<sup>d</sup>. per annum.

Et de vj<sup>s</sup>. de decasu unius tenementi nuper in tenura Johannis Wryght, quia in manu Domini per annum.

Et de vj<sup>s</sup>. de decasu unius tenementi in tenura Rob<sup>ti</sup> Sothron quia nuper ad xx<sup>s</sup>. per annum, modo ei allocatur ei (*sic*) pro omnibus reparacionibus per ipsum faciendis vj<sup>s</sup>.

Et de vij<sup>s</sup>. decasu quinque cotagiorum in venella<sup>1</sup> Burss, olim omnes quinque per annum ad x<sup>s</sup>. iij<sup>d</sup>. modo dimissa ad Dominum Thomam Subthrope capellanum pro vj<sup>s</sup>. viij<sup>d</sup>. quia stabit omnibus reparacionibus, et in manu Domini per dimid. anni.

Et de iij<sup>s</sup>. de decasu unius tenementi in tenura Ric<sup>i</sup> Jakson nuper xij<sup>s</sup>. modo viij<sup>s</sup>. quia stabit omnibus reparacionibus.

Et de vj<sup>s</sup>. iij<sup>d</sup>. de decasu unius tenementi in tenura Elene

<sup>1</sup> The lane. Venell is still used in this sense in Scotland. No traces of the lane Burss in York now remain.

Millner nuper viij<sup>s</sup>. modo iij<sup>s</sup>. iiij<sup>d</sup>. quia in manu Domini per dimidium anni.

Summa l<sup>s</sup>. iiij<sup>d</sup>.

GYLLYGAIT. Et de xxiiij<sup>s</sup>. de decasu x cotagiorum in Gyllygaitt quia in manu Domini per annum preteritum v<sup>s</sup>. viij<sup>d</sup>.

Summa patet.

CLYFTON. Et de viij<sup>d</sup>. de decasu unius clausi in Clyfton vocati (*sic*) Craknok in tenura Ric<sup>i</sup> Diatson quia stabit ad omnes reparaciones sibi dimissi per indenturam pro ix annis hoc anno secundo.

Et de iij<sup>s</sup>. de decasu unius acri prati in Hurtbuk quia intratur ad commodum officii.<sup>1</sup>

Et de vj<sup>s</sup>. viij<sup>d</sup>. de decasu unius tenementi in tenura Th. Lazenby sic sibi dimissi per indenturam quia stabit omnibus reparacionibus.

Et de v<sup>s</sup>. de decasu unius cottagii in tenura Ric<sup>i</sup> Skypsy quia in manu Domini per annum.

Et de iij<sup>s</sup>. vj<sup>d</sup>. de decasu unius cottagii nunc in tenura Rob<sup>ti</sup> Lewys quia in manu Dom<sup>i</sup> per iij quarteria et ad vj<sup>s</sup>. per annum.

Summa xx<sup>s</sup>. x<sup>d</sup>.

FULFFURTHE. Et de v<sup>s</sup>. de decasu unius tenementi in Fulfurthe in tenura Relicte Berwyk xxxv<sup>s</sup>. modo xxx<sup>s</sup>. sic sibi dimissi pro ix annis per indenturam hoc anno nono.

Summa patet.

HUDSWELL. Et de iij<sup>s</sup>. viij<sup>d</sup>. de decasu unius tenementi in Hudswell in tenura Henrici Nicolson sic sibi dimissi per indenturam pro ix annis quia stabit ad omnes reparaciones.

Summa patet.

LYNCOLN. Et de xvj<sup>s</sup>. de decasu unius tenementi in Lincoln nuper xj<sup>s</sup>. modo ix<sup>s</sup>. viij<sup>d</sup>. sic sibi dimissi per indenturam hoc anno octavo.

Summa patet.

<sup>1</sup> It had been let for four shillings, but was now appropriated to the use of the Chamberlain's department.



Et de ij<sup>s</sup>. de decasu unius libere firme in Bekfeld pro quatuor annis per annum vj<sup>d</sup>. de Priore de Markby<sup>1</sup> in comitatu Lyncoln quia non soluti pro xx annis et ultra.

ROWMBRUGHT. Et de vj<sup>s</sup>. viij<sup>d</sup>. de decasu Celle de Rowmbrought pro vino in die Pentecostes.<sup>2</sup>

Summa patet.

Et de xx<sup>s</sup>. de decasu unius pencionis ecclesie de Myddleton Tyas pro vino in quarto die infra octavas assumptionis Beate Mare (*sic*) viz. pro anno vj<sup>o</sup>., vij<sup>o</sup>. et ix<sup>o</sup>. quia male est dispositus<sup>3</sup> et non vult solvere.

Et de ij<sup>s</sup>. de decasu per personam Poille,<sup>4</sup> qui solebat dare pro pane de lez mayne in quarto die infra octavas assumptionis Beate Marie et nunc denegat.

Et de xx<sup>s</sup>. solutis Domino Abbati in modum subsidii ad pinciones<sup>5</sup> magni altaris.

Summa xlij<sup>s</sup>.

SUMMA OMNIUM EXPENSARUM ET ALLOCACIONUM, <sup>xx</sup>vjiiij<sup>ii</sup>. j<sup>d</sup>. ob.

Et sic debet super hunc comptum, xij<sup>s</sup>. v<sup>d</sup>.

<sup>1</sup> Near Alford. Here was a Priory of Augustinian Canons, founded by Ralph Fitz Gilbert to the honour of St. Peter, about the end of the xith century. The Prior appears to have held a farm in Bekfeld in Lincolnshire under the Abbot of St. Mary's, and to have been a bad tenant.

<sup>2</sup> This, which was probably a customary payment, had not been received by the accountant in consequence of the suppression of the Priory in the preceding year. Romburgh was one of five of the smaller monasteries, for the suppression of which Cardinal Wolsey obtained a grant from Pope Clement VII., in order to found a College at Oxford, and another at Ipswich. The Bull of the Pope is dated Prid Id. Maii, (the 14th of May,) 1528; and on the 11th of September following, the officers of the Cardinal took possession of the Priory. On the 20th of that month, the Abbot of St. Mary's, Edmund Whalley, addressed a letter to the Cardinal, deprecating the suppression of the Priory which had been granted to the Abbey by one of its earliest founders and benefactors; entreating that "yt might consiste and abyde as a membre to cure monastery, as yt haith done this thre hundred yeres and more," and offering, if his suit were granted, three hundred "markes sterlinge" towards the erection and foundation of the intended college at Ipswich. But his grace's "most bownden bedeman" sued in vain.—See '*Letters relating to the Suppression of Monasteries*,' published by the Camden Society.

<sup>3</sup> This ill-disposed person was the Vicar. See p. 126.

<sup>4</sup> The parson of one of the churches belonging to the monastery.

<sup>5</sup> The word is uncertain, being very badly written; if it be thus rightly represented, it denotes, probably, some ornamental paintings.

*The Bills referred to in the Compotus, written on coarse paper,  
and attached to the end of the roll.*

BILLA ANNIVERSARII MAGISTRI COLLEGII,<sup>1</sup> FACTA PER FRATREM THOMAM SYNGLETON MAGISTRUM COMMUNIE SPECIERUM. ANNO DOMININI M<sup>o</sup> D<sup>o</sup> XXIX<sup>o</sup>

## EX PARTE ABBATIS.

Dns Abbas . . . . . iij<sup>s</sup>. iiij<sup>d</sup>.  
Fr. John Rypley  
Fr. Th. Byrdlyngton  
Fr. Ric. Sherburne  
Fr. Nicol. Burnyshton  
Fr. Will. Walton  
Fr. Rob. Paddy  
Fr. Will. Cokermouth  
Fr. Joh. Lawson  
Fr. Will. Hapton  
Fr. Rad. Hartley  
Fr. Nic. Newell  
Fr. Will. Fyley  
Fr. Joh. Cawood  
Fr. Th. Eshe  
Fr. Edm. Metcalf  
Fr. Nicol. Cowper  
Fr. Th. Richmund  
Fr. Joh. Gaill

## EX PARTE PRIORIS.

Dns Prior . . . . . xij<sup>d</sup>.<sup>2</sup>  
Fr. Will. Forest  
Fr. Th. Staveley  
Fr. Will. Burton  
Fr. Th. Syngleton  
Fr. Will. Couerdaill  
Fr. Joh. Poole  
Fr. Joh. Whytt  
Fr. Guido Oswaldkyrke  
Fr. Pet. Stanley  
Fr. Joh. York  
Fr. Joh. Byrkhed  
Fr. Th. Marss  
Fr. Ric. Hornsey  
Fr. Rob. Lowthrope  
Fr. Joh. Whytfeld  
Fr. Rob. Bowtham  
Fr. Joh. Clyfton  
Fr. Joh. Grayson  
Fr. Jac. Fulthrope  
Fr. Rog. Nelson

Capita xl.

Quolibet fratre capiente . . . . . xij<sup>d</sup>.

Summa xliij<sup>s</sup>.

Et in pane de lez Mayne et vino datis Domino Abbati et conventui . . . . . vij<sup>s</sup>.

Et in elemosyna data pauperibus eodem die . . . . . xiiij<sup>s</sup>.

Summa xx<sup>s</sup>.

Summa totalis lxiiij<sup>s</sup>.

<sup>1</sup> Wm. Lambert. See p. 132.

<sup>2</sup> An error of the scribe: it should be xx<sup>d</sup>. Ibid.

BILLA ANNIVERSARII ROBERTI BULLOKE ET UXORIS EJUS  
FACTA PER FRATREM THOMAM SYNGLETON MAGISTRUM COM-  
MUNIE SPECIERUM. ANNO DOM<sup>i</sup> M<sup>o</sup> D<sup>o</sup> XXIX<sup>o</sup>

In primis. In claris pecuniis datis Dno Abbati . . . . . iiiij<sup>s</sup>.  
Et in uno capone empto pro ferculo Prioris . . . . . vj<sup>d</sup>.  
Et in ix lez limys well<sup>1</sup> emptis pro Priore et confratribus ij<sup>s</sup>. iij<sup>d</sup>.  
Et in ij lez costes<sup>2</sup> well emptis pro lez bukeray<sup>3</sup> . . . . . vj<sup>d</sup>.  
Et in ix lez brestes moton . . . . . ij<sup>s</sup>. iij<sup>d</sup>.  
Et in ij lez moton<sup>4</sup> vj<sup>d</sup>. cum duobus libris suet ij<sup>d</sup>. . . . . viij<sup>d</sup>.  
Et in pist<sup>5</sup> aque dulcis . . . . . v<sup>d</sup>.  
Et in ovis vj<sup>d</sup>. et in butiro v<sup>d</sup>. et in una lagena<sup>6</sup> mellis xv<sup>d</sup>. et  
in una libra piperis ij<sup>s</sup>. et in croco<sup>7</sup> vj<sup>d</sup>. et in una libra powdere  
de annas<sup>8</sup> iiiij<sup>d</sup>. et in cinamone v<sup>d</sup>. et in gynger iiiij<sup>d</sup>. et in masse<sup>9</sup>  
et cloffe<sup>10</sup> iiiij<sup>d</sup>. et in suger iij<sup>d</sup>. . . . . vj<sup>s</sup>. j<sup>d</sup>.  
Et in i libra lez sanders<sup>11</sup> . . . . . ij<sup>s</sup>.  
Et in una lagena vini rubei pro lez leche Lumbart<sup>12</sup> . . . . . xij<sup>d</sup>.  
Et in pane lez mayne et vino datis Dno Abbati et confra-  
tribus . . . . . viij<sup>d</sup>.  
Et in uno quarterio<sup>13</sup> vini dati coko pro labore suo . . . . . iij<sup>d</sup>.  
Summa xxvij<sup>s</sup>. viij<sup>d</sup>.

<sup>1</sup> Joints or legs of veal.

<sup>2</sup> Sides or loins of veal.

<sup>3</sup> The meaning of this word has not been ascertained.

<sup>4</sup> Two sheep; but the price seems to warrant the suspicion that some portions or joints of a sheep are meant.

<sup>5</sup> The word is uncertain, being ill written. It is probably intended for 'pisce'; and piscis dulcis aquæ, means some fresh water, or river-fish.

<sup>6</sup> A gallon.

<sup>7</sup> Saffron.

<sup>8</sup> Aniseeds pounded or ground.

<sup>9</sup> Mace.

<sup>10</sup> Cloves.

<sup>11</sup> Sandal wood; the wood of the *Pterocarpus Santalinus*, a native of the East Indies. It appears to have been used in colouring jellies, and other articles of confectionary.

<sup>12</sup> Some kind of sweetmeat, generally perhaps some kind of jelly: but sometimes consisting partly of jelly and partly of pastry, and formed into some 'suttletic' or device. We meet with it in the bills of fare at various great festivities, forming a portion of almost every course. See the accounts of the Installations of Abp. Nevill and Abp. Warham, *Leland's Collect. Vol. VI.* This viand was distinguished by various appellations, as leche Lumbart, Cypres, Damaske, Florentine, Gramor, comfort. See *Prompt. Parvul. in verb.*

<sup>13</sup> A quarter of a gallon.

BILLA ANNIVERSARII DOMINI JOHANNIS LEWLING FACTA  
PER FRATREM THOMAM SYNGLETON MAGISTRUM COMMUNIE  
SPECIERUM. ANNO DNI. M<sup>o</sup>D<sup>o</sup>XXIX<sup>o</sup>

## EX PARTE ABBATIS.

Dominus Abbas . . . . . xx<sup>d</sup>.  
Fr. Joh. Rypley  
Fr. Th. Byrdlyngton  
Fr. Ric. Sherburne  
Fr. Nic. Burnyshton, Cantor xij<sup>d</sup>.  
Fr. Will. Walton  
Fr. Rob. Paddy  
Fr. Will. Cokermouth  
Fr. Joh. Lawson  
Fr. Will. Hapton  
Fr. Rad. Hartley  
Fr. Ric. Newell  
Fr. Will. Fyley  
Fr. Joh. Cawood  
Fr. Th. Eshe  
Fr. Edm. Metcalf  
Fr. Nic. Cowper  
Fr. Th. Richmund  
Fr. Joh. Gaill

## EX PARTE PRIORIS.

Dominus Prior . . . . . xij<sup>d</sup>.  
Fr. Will. Forest  
Fr. Th. Staveley  
Fr. Will. Burton  
Fr. Th. Syngleton  
Fr. Will. Couerdaille  
Fr. Joh. Poole  
Fr. Joh. Whyte  
Fr. Guido. Oswoldkyrke  
Fr. Pet. Stanley  
Fr. Joh. Yorke  
Fr. Joh. Byrkhed  
Fr. Th. Marss  
Fr. Ric. Hornsey  
Fr. Rob. Lowthrope  
Fr. Joh. Whytfeld  
Fr. Rob. Bowtham  
Fr. Joh. Clyfton  
Fr. Joh. Grayson  
Fr. Jac. Fulthrope  
Fr. Rog. Nelson

Summa capitum xl.

Quolibet fratre capiente vj<sup>d</sup>.

Summa xxij<sup>s</sup>. ij<sup>d</sup>.

BILLA EXPENSARUM FACTA PER FRATREM THOMAM SINGLETON  
MAGISTRUM COMMUNIE SPECIERUM IN ANNIVERSARIO  
DOMINI WILL<sup>i</sup> SEUOS<sup>1</sup> EPISCOPI DUNELM. ET PARENTUM EJUS.  
ANNO DOMINI M<sup>o</sup>D<sup>o</sup>XXIX<sup>o</sup>

In primis. In clara pecunia data Domino Abbati . . . . . ij<sup>s</sup>. iiij<sup>d</sup>.

Et in duobus et dimidio agnellorum<sup>2</sup> emptis pro Priore et  
Conventu . . . . . ij<sup>s</sup>. x<sup>d</sup>.

<sup>1</sup> See p. 132.

<sup>2</sup> Young lambs.

Et in ix lez brestes well, empt. cum duobus libris lez  
 suet, ij<sup>d</sup>. . . . . ij<sup>s</sup>. v<sup>d</sup>.  
 Et in uno capone pro ferculo Prioris . . . . . vj<sup>d</sup>.  
 Et in lez sawcesters<sup>1</sup> . . . . . v<sup>d</sup>.  
 Et in j quarterio piperis vj<sup>d</sup>. et in croco v<sup>d</sup>. et in dimidio  
 libræ small raysins<sup>2</sup> ij<sup>d</sup>. et in dimidio libræ great raysins ij<sup>d</sup>. et in  
 melle iiij<sup>d</sup>. ob. . . . . xix<sup>d</sup>. ob.  
 Et in vino dato Domino Abbati et Conventui . . . . . v<sup>s</sup>.  
 Et datis Sacriste propter oblacionem . . . . . xij<sup>d</sup>.  
 Et datis Sacriste pro luminibus tempore Misse. . . . . viij<sup>d</sup>.  
 Et datis xiiij pauperibus orantibus tempore Misse . . . . . xiiij<sup>d</sup>.  
 Summa xx<sup>s</sup>. viij<sup>d</sup>.

BILLA EXPENSARUM FACTA PER FRATREM THOMAM SINGLE-  
 TON MAGISTRUM COMMUNIE SPECIERUM CIRCA O ORIENS.<sup>3</sup>  
 ANNO DOMINI M<sup>o</sup> D<sup>o</sup> XXIX<sup>o</sup>

In primis datis Dno Abbati in clara pecunia . . . . . iiij<sup>s</sup>. iiij<sup>d</sup>.  
 Et in turbot empto pro ferculo Prioris . . . . . vj<sup>d</sup>.  
 Et in j lez pykrell<sup>4</sup> empt. . . . . xij<sup>d</sup>.  
 Et in v les stykes anguillarum<sup>5</sup> . . . . . xx<sup>d</sup>.  
 Et in lx lez rochys . . . . . xv<sup>d</sup>.  
 Et in ovis vj<sup>d</sup>. et in butiro ij<sup>d</sup>. et in melle iiij<sup>d</sup>. . . . . xij<sup>d</sup>.  
 Et in pipere vj<sup>d</sup>. et in croco iiij<sup>d</sup>. ob. et in j libra small raysins  
 iiij<sup>d</sup>. et in melle ij<sup>d</sup>. et in lacte ij<sup>d</sup>. et in dimidio libræ great  
 raysins iiij<sup>d</sup>. ob. . . . . ij<sup>s</sup>. ij<sup>d</sup>.  
 Et in vino dato Dompno Priori et Conventui ut patet per  
 librum Magistri vini<sup>6</sup> . . . . . xxij<sup>d</sup>.  
 Summa xvj<sup>s</sup>. ob.

<sup>1</sup> Probably sausages.

<sup>2</sup> Currants.

<sup>3</sup> See p. 139.

<sup>4</sup> A young pyke.

<sup>5</sup> Of eels. A styke consisted of 25 eels; and 10 stykes formed 'a bynde.'—  
*Spelman's Glossary.*

<sup>6</sup> The Cellarer.

*Written on the back of the roll.*

## NOMINA NON SOLVENTIUM.

In primis, Custos maneriorum pro pensione ecclesie de Hornsey pro anno viij<sup>o</sup>. et nono . . . . . x<sup>li</sup>.

Executores Doctoris Melton pro porcione in Medleton et Melmerby anno nono . . . . . iiij<sup>s</sup>. iiiij<sup>d</sup>.

VICUS SANCTE MARIE. Johannes Stalker in vico Sancte Marie pro firma Pentecostes anno ix<sup>o</sup>. . . . . iiiij<sup>s</sup>.

Johannes Sanderson pro termino Pentecostes anno ix<sup>o</sup>. . . . . ij<sup>s</sup>.

Rowland Hampschaw pro termino Pentecostes anno ix<sup>o</sup>. . . . . ij<sup>s</sup>.

Relicta Alexandri Thompson pro termino Pentecostes anno ix<sup>o</sup>. . . . . xviiij<sup>d</sup>.

Relicta Will<sup>i</sup> Butterwicke pro termino Pentecostes anno ix<sup>o</sup>. . . . . iiij<sup>s</sup>. iiiij<sup>d</sup>.

Ricardus Heslyngton pro termino Pentecostes anno ix<sup>o</sup>. . . . . ij<sup>s</sup>.

BOWTHAM. Relicta Drawswerd pro termino Pentecostes anno ix<sup>o</sup>. . . . . ij<sup>s</sup>. vj<sup>d</sup>.

Relicta Brown pro termino Pentecostes anno ix<sup>o</sup>. . . . . xx<sup>d</sup>.

Relicta Esterby pro termino Michaelis anno ix<sup>o</sup>. . . . . xij<sup>d</sup>.

Relicta Wyethawse pro termino Pentecostes anno ix<sup>o</sup>. . . . . xij<sup>d</sup>.

Johannes Handley pro Pentecoste . . . . . iiij<sup>s</sup>. vj<sup>d</sup>.

Johannes Anderson pro duobus annis . . . . . xiiij<sup>s</sup>. iiiij<sup>d</sup>.

Johannes Hakbarow pro termino Pentecostes anno ix<sup>o</sup>. . . . . xl<sup>s</sup>.

Elena Mylner pro termino Pentecostes anno ix<sup>o</sup>. . . . . xx<sup>d</sup>.

GELYGAYTE. Will<sup>o</sup> Yettes in Geligaytt pro termino Michaelis anno ix<sup>o</sup>. . . . . xij<sup>d</sup>.

Johannes Lyemburner pro termino Michaelis anno ix<sup>o</sup>. . . . . xij<sup>d</sup>.

Will<sup>o</sup> Syngleton pro termino Michaelis anno ix<sup>o</sup>. . . . . viij<sup>d</sup>.

CLYFTON. Ric<sup>i</sup> Dyatson pro una clausura vocata Crakenuyke pro anno integro ad terminum Michaelis . . . . . ij<sup>s</sup>.

Ricardus Jakson pro columbina pro termino Michaelis anno ix<sup>o</sup>. . . . . v<sup>s</sup>.

Johannes Mawman de Thornton pro termino Pentecostes anno ix<sup>o</sup>. . . . . viij<sup>s</sup>. iiij<sup>d</sup>.

Relicta Johannis Forde pro anno integro pro terris in Buttercrambe ..... iiij<sup>s</sup>. vj<sup>d</sup>.

MYTON. W<sup>o</sup> Wodward de Myton pro termino Pentecostes anno ix<sup>o</sup>. ..... ix<sup>s</sup>.

Thomas Poolter pro termino Michaelis anno viij<sup>o</sup>. v<sup>s</sup>. Schays pro termino Pentecostes a<sup>o</sup>. ix<sup>o</sup>. v<sup>s</sup>. ..... x<sup>s</sup>.

Relicta Wodward pro termino Pentecostes anno ix<sup>o</sup>. . . ij<sup>s</sup>. iij<sup>d</sup>.

Johannes Rawson de Dufforth pro termino Pentecostes anno ix<sup>o</sup>. ..... v<sup>s</sup>.

Ric. Clarke de Elyngthrope pro termino Pentecostes a<sup>o</sup>. ix<sup>o</sup>. xx<sup>s</sup>.

Dominus Henricus Blissing capellanus pro terris in Ravenswath pro anno integro ..... ix<sup>s</sup>. viij<sup>d</sup>.

Henricus Taylyor de Hornby pro termino Pentecostes anno ix<sup>o</sup>. ..... x<sup>s</sup>. vj<sup>d</sup>.

Spawnton in manibus diversorum.

Schamyston in manibus Willielmi Hunter pro termino Pentecostes a<sup>o</sup>. ix<sup>o</sup>. ..... iiij<sup>s</sup>. iij<sup>d</sup>.

Cotyngwith in manibus Georgii Ceselle pro anno viij<sup>o</sup>. vj<sup>s</sup>. et in aliis tenementis pro isto anno vj<sup>s</sup>. ..... xij<sup>s</sup>.

Fulfurth in manibus Johannis Anderson pro termino Michaelis anno ix<sup>o</sup>. ..... v<sup>s</sup>. iij<sup>d</sup>.

Kelfeld. Relicta Johannis Hogson pro termino Michaelis anno ix<sup>o</sup>. ..... ij<sup>s</sup>.

Overpopleton. Guydo Wright pro anno integro ..... xx<sup>d</sup>.

Netherpopleton. Relicta Stabill pro uno anno et dimidio x<sup>s</sup>. iij<sup>d</sup>.

Brentleyes. Johannes Emerson pro termino Pentecostes anno ix<sup>o</sup>. ..... xxxiiij<sup>s</sup>. iij<sup>d</sup>.

Warmysworth in manibus diversorum pro terminis Pentecostes et Michaelis anno ix<sup>o</sup>. ..... lvij<sup>s</sup>. vj<sup>d</sup>.

Bekfeld in manibus diversorum pro anno ultimo elapso et isto anno ..... xxxij<sup>s</sup>. ij<sup>d</sup>.

Magister Johannis Metcalffe, xij<sup>s</sup>. iij<sup>d</sup>. Dominus Andreas Rowthe capellanus, xij<sup>s</sup>. iij<sup>d</sup>. ..... xxvj<sup>s</sup>. viij<sup>d</sup>.

Summa (*blank*)

INVENTORIUM COMMUNIE SPECIERUM ET CAMERARII FACTUM PER FRATREM TH. SYNGLETON MAGISTRUM COMMUNIE SPECIERUM ET CAMERARIUM DE OMNIBUS REBUS REMANENTIBUS ET EXISTENTIBUS IN DICTO OFFICIO AD FESTUM SANCTI MICHAELIS ARCHANGELI, ANNO DOMINI MILLESIMO QUINGENTESSIMO VICESIMO NONO.

SARTRINUM. In primis sunt ibidem iiij<sup>or</sup>. pelves.<sup>1</sup> Item sunt ibidem ij harprons. Item, sunt ibidem xij manutergia facta de novo. Item, est ibidem una magna cista ad conservanda fratrum vestimenta.<sup>2</sup> Item sunt ibidem tres sere cum clavibus. Item sunt ibidem due magne tabule et ij<sup>e</sup>. parve tabule et tres formule et unus saccus ad portanda vestimenta fratrum.

DORMITORIUM. Item sunt ibidem in dormitorio iij<sup>ca</sup>. lucerne ij<sup>e</sup>. ad portandum coram fratribus<sup>3</sup> et tertia ad pendendum prope hostium nove camere. Item sunt ibidem iiij<sup>or</sup>. lampades nove. Item sunt ibidem iiij<sup>or</sup>. olle terree ad conservandum oleum.

DOMUS OFFICII. Item sunt in domo officii vj<sup>e</sup>. et dimidium lattarum. Item sunt ibidem una carecta et dimidium calcis. Item sunt ibidem iiij<sup>e</sup>. tegule. Item sunt ibidem iiij<sup>e</sup>. scotseymc ij<sup>e</sup>. syngle spykyngs ij<sup>e</sup>. dowble spykyngs et dimidium et iiij<sup>ca</sup>. scharplyngs. Et sunt ibidem due magne ligature ferree.

STABULUM. Et est in stabula unus equus ambulans. Et est ibidem una cella cum freno et ceteris ornamentis equi. Et est ibidem unum magnum dolium<sup>4</sup> ad conservandam prebendam equi. Et est ibidem tres carecte feni. Et sunt ibidem due sere cum clavibus.

<sup>1</sup> Basins.

<sup>2</sup> The garments not in use. Every monk had a change of garments, so that they might be occasionally washed.

<sup>3</sup> They went to the dormitory in procession, after the complin or last service.

<sup>4</sup> A cask or tub, used here to denote the chest or bin in which the 'prebenda' or food of the horse was kept.



## GENERAL REMARKS.

From this valuable document we obtain some interesting information respecting the state of the Monastery of St. Mary, at York, at the period to which it relates: but it is to be regretted that we have not the fuller information which the Bursar's roll, comprising the accounts of all the inferior officers, would undoubtedly have afforded.

This document contains four lists of the brethren then in the establishment, from which we learn that the whole number of them, including seven Novices, amounted to thirty-nine; beside the Abbot and the Prior. From a manuscript in the Bodleian Library at Oxford, containing "Annals of the Monastery of St. Mary at York," it appears that in the year 1258, thirty-one monks, including two 'not professed,' voted at the election of the Abbot Simon de Warwick; and as the contest between him and the Prior of the Monastery was very severe, Simon having gained his election by a majority of only one, it is most probable that there were not more than the above number then in the House.\* At the dissolution of the Monastery in 1540, the number of monks, including one Novice, was forty-eight. The

\* The following is the list of these Monks, as copied by the late E. Strickland, Esq.

For Symon de Warwick.

Tho. le Maria (*sic*) Granator.  
 Rob. de Selby.  
 Ric. de Topelive, Sub-prior.  
 Joh. de Acaster.  
 Pet. de Ethlingthorp, Camerarius.  
 Adam de Dalton, Tertius Prior.  
 Will. de Spaunton.  
 — de York, Sacrista.  
 Joh. de Langtofte, Cocus.  
 Ric. Agnus, Magister Operum.  
 Adam de Lincoln.  
 Gregorius de Walnea.  
 Galfr. de Malton, Bursarius.  
 Adam de Frazinis, Infirmarius.  
 Eudo de Warthum.  
 Steph. de Gilling, Refectorius.  
 Rob. de Winne, Non-professus.

For the Prior.

John de Lestingham, Prior.  
 John de Melsa.  
 Rob. de Ermyne, Eleemosinarius.  
 Rob. de Garton.  
 Tho. de Westehale, Receptor hospitum.  
 Tho. de Walmgate.  
 Tho. de Lestingham.  
 Martinus de Wyrkington.  
 Gilb. de Leyrton.  
 Rob. de Vill, Cantor.  
 Tho. de Wymundham, Prebendarius.  
 Will. de Thornton.  
 Symon de Aberford.  
 Mich. Armidela.  
 Tho. de S<sup>c</sup>a Wega.  
 Joh. de Cruce, Non-professus.

usual number may be considered as fluctuating between the two extremes.

The names of the brethren who were in the monastery at the dissolution, eleven years after the date of this *Compotus*, are preserved in the *Monasticon Anglicanum*; on comparing them with those recorded in the four lists in the *Compotus*, we find that eight only of those which occur in these lists, appear in that of the *Monasticon*. The rest of the brethren, with the exception of Ralph Hartley, who had been appointed, and was at the time of the dissolution, Prior of Wetherhall, had either been removed, or, as is most probable, had died. One of the eight remaining, was Tho. Singleton, the Chamberlain, himself; who, with two others, John Byrkhed and Rob. Lowthrope, received an annual pension from the Crown of £6. 8s. 4d. each; the remaining five, W. Walton, W. Hopton, Th. Eshe, Th. Marss and Edm. Metcalfe, having each a pension of £6.

Among the brethren who voted at the election of Simon de Warwick, we find a Sub-Prior, and also a third Prior: a Master of the works also, and a Receiver of the Guests. There may have been the same officers in the Monastery in the time of Abbot Whalley when this Account-roll was written, but they are not mentioned in it; but the following, beside the Abbot and Prior, are noticed: the Chamberlain, Tho. Singleton who was also keeper of the Spicery, the Precentor, whose name is also given, the Master of the Manors, the Master of the College, the Bursar, the Sacrist, the Almoner, the Receivers of the Monastery, the Master of the Wine (Cellarer), the Granarer, the *Magister parvæ Communiæ*, the Infirmarer, the Keeper of the lamps in the dormitory; the Foresters of Galtres also may have been two or more of the brethren.

It was usual, especially in Monasteries of the Benedictine order, to send some of the younger and more promising brethren to one of the Universities; generally to Oxford. It appears that when this *Compotus* was written, there were scholars from St. Mary's studying at Cambridge. Their number is not stated. The Accountant provides out of his two departments for the expenses of one: the sum for which he accounts, viz. 66'. 8<sup>d</sup>.

being exactly that which we find, in another instance, to have been deemed sufficient for the purpose. In the "Testamenta Eboracensia," published by the Surtees Society, the will of Rob. Savage of York, dated 1391, is cited, in which he bequeaths to his Son xx marks to find for his expenses at the University four years: *i. e.* five marks or 66<sup>s</sup>. 8<sup>d</sup>. yearly. (See above, p. 129 and *Test. Ebor*, No. cxxvii.) The other scholar or scholars must have been provided for out of other departments.

The number of servants in such an establishment as that of St. Mary at York, must undoubtedly have been considerable. At Bolton Priory, where there were no more than fifteen Canons, Dr. Whitaker supposes that the whole establishment consisted of more than 200 persons; the Prior alone having 20 servants. The servants particularly mentioned in this roll, are, the servant of the Chamberlain, the master tailor and his assistants, the shoemaker, the skinner or preparer of leather, and the washer-woman or laundress.

Among the possessions of the Monastery were many houses in the suburbs and neighbourhood of York, which appear to have been under the charge of the Chamberlain. The highest annual rent he received, was 30 shillings for a tenement at Fulford; the lowest was 3<sup>s</sup>. for one in St. Marygate. One tenement in the same place was let for 26<sup>s</sup>. 8<sup>d</sup>. and one in Bootham for 20<sup>s</sup>. A pigeon-cot was let for 5<sup>s</sup>. per ann.: and an acre of meadow land at Clifton for 2<sup>s</sup>.

We learn something from this account-roll respecting the rate of wages at York, at the beginning of the xvi<sup>th</sup>. century. A master tailor, working in an apartment appropriated to him, and perhaps living in the Monastery, received annually, 43<sup>s</sup>. 4<sup>d</sup>. and his food; and two men working under him received 26<sup>s</sup>. 8<sup>d</sup>. each and their food. The skinner received 20<sup>s</sup>. and his food. The shoemaker, finding his own oil, 20<sup>s</sup>. and 4<sup>s</sup>. 4<sup>d</sup>. for colouring the boots (*ocreae*) of the brethren. The common washerwoman received 12<sup>s</sup>. and a semstress was paid 6<sup>d</sup>. for making nine ells of linen into towels (the number not stated) for the use of the Monastery.

A master plasterer was paid 4<sup>d</sup>. a-day, and his man 2<sup>d</sup>. A tiler and his man 6<sup>d</sup>., on one occasion 10<sup>d</sup>. A carpenter 6<sup>d</sup>.

The mowing of an acre of grass-land cost 6<sup>d</sup>.; the making of the hay 6<sup>d</sup>. and the carting of it to the Monastery from Clifton 6<sup>d</sup>.

The felling of two trees cost 4<sup>d</sup>.; the sawing of them 6<sup>d</sup>.; and the carting of them, in four cart loads from Deighton to the Monastery, a distance of about five miles, 16<sup>d</sup>. The price of 100 tiles was 3<sup>s</sup>. and of 1000 fagots 20<sup>s</sup>.

A garment (tunica) given annually as a gratuity to the Chamberlain, cost 6<sup>s</sup>. 8<sup>d</sup>.; a pair of boots for the Chamberlain's servant, 2<sup>s</sup>.; linen for towels, 10<sup>d</sup>. an ell. A lock and key cost 5<sup>d</sup>. One sort of nails, 2<sup>s</sup>. 6<sup>d</sup>. a thousand, another 1<sup>s</sup>. 6<sup>d</sup>., another 12<sup>d</sup>. and one 10<sup>d</sup>. a hundred. A bridle cost 9<sup>d</sup>. A gallon of oil for lamps, 12<sup>d</sup>.

From this roll we gain little information concerning the price of cattle. One horse was sold from the Monastery for 10<sup>s</sup>., and another was purchased from one of the brethren for the Chamberlain's office for 12<sup>s</sup>.

From the bills of fare at the obits provided by the Custos Anniversariorum, we learn that the price of a capon was 6<sup>d</sup>., of a joint (a leg or shoulder) of veal 3<sup>d</sup>., of a breast of mutton 3<sup>d</sup>. A turbot cost 6<sup>d</sup>., a stick, or quarter of a hundred of eels 4<sup>d</sup>., a small pike 12<sup>d</sup>., 60 roaches 15<sup>d</sup>., 7 gallons of honey 15<sup>d</sup>. Pepper cost 3½ a lb. Sanders 2<sup>s</sup>. a lb., raisins 4<sup>d</sup>. a lb., and small raisins, or currants 4<sup>d</sup>. a lb. The price of a gallon of red wine was 12<sup>d</sup>.

Such lists of the members of religious houses as are contained in the preceding roll, are not common; they may be considered therefore as forming a remarkable and interesting portion of this document. More than half of the names are names of places, chiefly in the county and neighbourhood of York; "doubtless the places of birth or of former residence of the party." It is observable that the particle "de" prefixed to the names of place, in the earlier list copied from the annals of the Monastery, is wholly dropped in these later lists.

Many other names beside those of the brethren, occur in this roll; names of persons connected with the Monastery as servants,

workmen and tenants. Some of these are no longer known in York ; but several remain, derived perhaps, in many instances, from those who bore them when the roll was written. Among these one may be deservedly noticed. The name of Sotherone is inscribed in the *Computus* of Tho. Singleton, as a tenant of a house in Clifton belonging to the Monastery of St. Mary at York, in the beginning of the 16th century : and that name stands enrolled among the benefactors of the Yorkshire Philosophical Society, in the middle of the 19th century, as that of the donor of this valuable document.

*On Magnetic Phænomena in Yorkshire.*—By JOHN PHILLIPS,  
F.R.S. Read Jan., 1851.

I purpose in this communication to place on record some measures of the Direction and Intensity of Magnetism in Yorkshire, from my own observations made at intervals during the last 20 years ; and some inferences touching the relation of magnetism to the physical geography of the District. The Magnetic Direction at any point of the earth's surface is usually expressed in two planes, one of which is parallel to the surface there, the other perpendicular to it. The direction of the needle, mounted so as to move freely in the first mentioned plane, settles to rest on a line called the magnetic meridian, which is compared with the meridian of the place, and the angle between the two is called the *Declination* or variation of the compass. This angle is variable ; in 1657\* it was reduced to zero ; in London, the needle then coinciding with the meridian. It is now, at York, about 24°, the needle pointing by so much to the west of north and east of south. I find very little difference in this respect in the course of 25 years ; at the beginning of this period it was about 25°, and it seems to be slowly diminishing.

If the place of the needle at 9 a. m. be assumed, for comparison, constant, the deviation of the north end towards the west is augmented about midday, and in the afternoon, by a

\* Cavallo, on Magnetism, p. 55.

quantity which varies from about 5' of angle to about 10', the greatest difference being in the warm months and the least in the cold months. But on this subject, other methods of research than mine have lately introduced greater exactness than I could attain to.

### *Inclination of the Needle.*

The needle being constructed to move freely in a vertical plane, which includes the magnetic meridian, and perfectly equipoised, is found in this region to incline downwards or dip at the north end. The angle of this *Inclination* or dip, as measured from the horizontal line in the plane of the meridian, is at this time a little above 70°, and appears to be slowly but unsteadily diminishing.

My first observations on this subject have the date of 1833, and were made with needles of my own construction. In 1837, I obtained a beautiful instrument (the Dip Circle) from the late Mr. Charles Robinson, of Devonshire Street, and it still remains in my hands, a highly prized memorial of that skilful maker.

With this instrument I have surveyed the County, and determined the magnetic dip at more than forty stations by series of observations. I will first collect the results obtained at York.

|                              | Needle 1.   | Needle 2.   |
|------------------------------|-------------|-------------|
| 1837, June 3rd.—2½ p. m. ... | 70°,, 47 ·9 | 70°,, 48 ·7 |
| 7 p. m. ...                  | 70 46 4     | 70 45 3     |
| 5th.—9 a. m. ...             | 70 50 9     | 70 51 3     |
| 11 a. m. ...                 | 70 50 8     | 70 51 2     |
| 7½ p. m. ...                 | 70 45 5     | 70 48 2     |
|                              | 70 48 3     | 70 48 9     |
| Mean .....                   | 70 48 3     | 70 48 9     |
| 14th.—11½ a. m. ...          | 70 47 4     | 70 48 0     |
| 15th.— 4 p. m. ...           | 70 45 6     | 70 47 9     |
| 8 p. m. ...                  | 70 44 4     | 70 45 2     |
|                              | 70 45 8     | 70 47 0     |
| Mean .....                   | 70 45 8     | 70 47 0     |

|                    |                         | Needle 1. |    |     | Needle 2. |    |     |
|--------------------|-------------------------|-----------|----|-----|-----------|----|-----|
| Aug. 1st.—         | 7 a. m. ...             | 70°       | 50 | ·9  | 70°       | 48 | ·9  |
|                    | 9½ a. m. ...            | 70        | 54 | 0   | 70        | 51 | 0   |
|                    | 3 p. m. ...             | 70        | 52 | 0   | 70        | 50 | 4   |
| 3rd.—              | 7¼ a. m. ...            | 70        | 51 | 1   | 70        | 50 | 2   |
|                    | Mean .....              | 70        | 52 | 0   | 70        | 50 | 2   |
| 1838, Sept. 13th.— | p. m. ...               | 70        | 50 | 25  |           |    |     |
|                    | 17th.— 7·8 a. m. ...    | 70        | 53 | 15  |           |    |     |
|                    | 19th.— 9·10 a. m. ...   | 70        | 48 | 15  |           |    |     |
|                    | 2½ p. m. ...            | 70        | 49 | 95  |           |    |     |
|                    | 6 p. m. ...             | 70        | 50 | 20  |           |    |     |
|                    | Mean .....              | 70        | 50 | 34  |           |    |     |
| 1839, June 15th.—  | 6½ p. m. ...            | 70        | 41 | 0   |           |    |     |
|                    | 6·50 p. m. ...          | 70        | 41 | 6   |           |    |     |
|                    | 8·45 p. m. ...          | 70        | 42 | 55  |           |    |     |
|                    | 9·0 p. m. ...           | 70        | 42 | 95  |           |    |     |
|                    | 17th.— 7·15 a. m. ...   | 70        | 46 | 75  |           |    |     |
|                    | 7·30 a. m. ...          | 70        | 46 | 5   |           |    |     |
|                    | 12·10 a. m. ...         | 70        | 47 | 97  |           |    |     |
|                    | 12·20 p. m. ...         |           |    |     | 70        | 47 | 55  |
|                    | 3·5 p. m. ...           | 70        | 42 | 7   |           |    |     |
|                    | 3·20 p. m. ...          | 70        | 39 | 95  |           |    |     |
|                    | Mean .....              | 70        | 43 | 5   | 70        | 47 | 55  |
| 1846, Aug. 26th.—  | 12·0 ...                | 70        | 21 | 2   | 70        | 16 | 86  |
| 1850, May 16th.—   | 5 p. m. ...             | 70        | 11 | 75  | 70        | 12 | 3   |
|                    | 17th.— 9½ a. m. ...     | 70        | 14 | 6   | 70        | 10 | 1   |
|                    | 24th.— 2½ p. m. ...     | 70        | 15 | 87  | 70        | 18 | 75  |
|                    | 28th.— 4½ p. m. ...     | 70        | 16 | 5   | 70        | 14 | 2   |
|                    | June 25th.— 9 a. m. ... | 70        | 16 | 75  |           |    |     |
|                    | 5 p. m. ...             |           |    |     | 70        | 18 | 4   |
|                    | 27.— 11 a. m. ...       | 70        | 14 | 27  |           |    |     |
|                    | 7 p. m. ...             |           |    |     | 70        | 17 | 47  |
|                    | 29.— 9 a. m. ...        | 70        | 18 | 875 |           |    |     |
|                    | 5½ p. m. ...            |           |    |     | 70        | 18 | 387 |
|                    | Mean .....              | 70        | 16 | 6   | 70        | 18 | 1   |

|                    |               | Needle 1. |       | Needle 2.    |
|--------------------|---------------|-----------|-------|--------------|
| July 2nd.—         | 6 a. m. ...   | 70°,,     | 13·25 |              |
| 3rd.—              | 12½ p. m. ... |           |       | 70°,, 15·275 |
|                    | 5¼ p. m. ...  | 70        | 14 63 | 70 14 71     |
| 16th.—             | 9 a. m. ...   | 70        | 21 00 |              |
|                    |               |           |       |              |
|                    | Mean .....    | 70        | 16 3  | 70 15 0      |
| 1851, April 29th.— | 10½ a. m. ... | 70        | 18 95 |              |
| 1853, Aug. 2nd.—   | 3:4 p. m. ... | 70        | 10 10 |              |

Collecting these results into one point of view, we find in the first place that Needles 1 and 2 from June 3 to Aug. 3, 1837, give mean dips not differing, on the average of 12 observations, more than 0' 05, and again 10 observations from Aug. 26 to July 3 give mean dips not differing more than 0' 1, quantities much within the probable errors of observation. We may therefore combine into one result the dips indicated by Needles 1 and 2. Hence—

|   |                     |    |    |          |
|---|---------------------|----|----|----------|
|   |                     |    |    | Obs.     |
| 1837, June 3 to 5   | mean dip = 70°,,    | 48 | ·6 | (20)     |
| 14—5  | ..... = 70          | 46 | 4  | (6)      |
| Aug. 1 to 3   | ..... = 70          | 51 | 1  | (8)      |
| The mean epoch of this whole series* is June 20, and the mean dip |                     |    |    |          |
| of the whole series*  | ..... (Obs. 34) ... | 70 | 48 | 80       |
| For 1837, mean epoch June 20,                                     |                     |    |    | Obs.     |
| mean dip  | .....               | 70 | 48 | 8 (34)   |
| In like manner the results for 1838,                              |                     |    |    |          |
| give mean epoch Sept. 17,   |                     |    |    |          |
| mean dip  | .....               | 70 | 50 | 34 (5)   |
| For 1839, mean epoch June 16,                                     |                     |    |    |          |
| mean dip  | .....               | 70 | 43 | 91 (10)* |
| For 1846, mean epoch Aug. 26,                                     |                     |    |    |          |
| mean dip  | .....               | 70 | 19 | 03 (2)   |

\* Weight being allowed in proportion to number of observations.

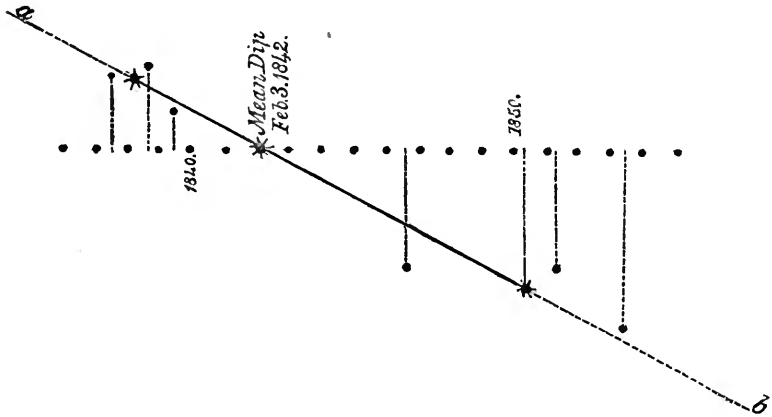


|   | Obs.            |
|---|-----------------|
| For 1850, mean epoch—                   |                 |
| mean of May 22, .....                   | 70°,, 17·24 (8) |
| mean of June 27, .....                  | 70 17 35 (6)    |
| mean of July 6, .....                   | 70 15 (5)       |
| <hr style="width: 20%; margin: auto;"/> |                 |
| General mean, June 14 .....             | 70 15 63 (19)   |
| <hr style="width: 20%; margin: auto;"/> |                 |
| For 1851, April 29 .....                | 70 18 95 (1)    |
| For 1853, Aug. 2 .....                  | 70 10 1 (2)     |

The mean epoch of the whole period is Feb. 3, 1842, and the mean dip of the period 70° 37'3.

The early period including 1837, 1838 and 1839, will be represented by a mean epoch of 1838, Jan. 27, and a mean dip of 70 47 9

The late period 1850 to 1853, will be represented by a mean epoch of 1850, Oct. 27, and a mean dip of 70 15 4.



The straight line *a b* drawn in the diagram represents the result of this computation. It passes through the three calculated mean points, and near to all the others, and indicates an annual diminution of the dip of 2'54, a result only a little different from that found between 1821 and 1838, by Col. Sabine for Britain, and by Dr. Lloyd between 1833 and 1836 for Ireland. The remarkably low observations of 1846, and the

somewhat high one of April 1851, are the only results which require notice as deviating sensibly from the means.

To make this result perfectly accurate it should be corrected for any periodical deviations from the mean of the year, to which the particular months or particular hours when the observations were made might be subject. But for this purpose the data are not yet sufficiently ascertained, and the effect of the correction would be in this series minute, because most of the observations are included between May and August, when the dip is at a maximum.\*

### *On the Isoclinal Lines in Yorkshire.*

Having ascertained the dip, and the annual change of dip, of the magnetic needle at York, we may proceed to trace the phænomena of dip through other parts of the county. For this purpose, observations were made in 1837, 1838, 1839, 1850, 1851, at many points in Yorkshire, and compared with nearly contemporaneous measures at York.

\* By the Greenwich observations in 1848, 1849, 1850, the several months, compared with the average of a year, stand thus:

|                                    | Below. | Above. |
|------------------------------------|--------|--------|
| January, below the average .. .. . | 0·46   |        |
| February, above .. .. .            |        | 1·48   |
| March, above .. .. .               |        | 1·60   |
| April, above .. .. .               |        | 1·50   |
| May, above .. .. .                 |        | 3·35   |
| June, above .. .. .                |        | 3·58   |
| July, above .. .. .                |        | 0·72   |
| August, above .. .. .              |        | 2·81   |
| September, below .. .. .           | 3·72   |        |
| October, below .. .. .             | 3·75   |        |
| November, below .. .. .            | 3·29   |        |
| December, below .. .. .            | 3·57   |        |

It thus appears probable that the magnetic dip has in each year a maximum about the months of May and June, and a minimum in the Autumn.

The following are the results.

|       |  | Contemporaneous dip at York. | Difference from York. |
|-------|--|------------------------------|-----------------------|
| 1837. | Doncaster, June 2, 3 ... 70° ,, 30 · 1 |                              | 18·5                  |
|       | York, ,, 3—5 ...                       | 70° ,, 48·6                  |                       |
|       | York, June 3—5 ... 70 48 6             |                              |                       |
|       | Thirsk, ,, 6 ... 70 59 2               | 70 48 2                      | +11·0                 |
|       | Osmotherley, ,, 6 ... 71 3 2           | 70 48 2                      | 15·0                  |
|       | Hambleton, ,, 7 ... 71 4 0             | 70 48 0                      | 16·0                  |
|       | Whitby, ,, 9 ... 70 57 9               | 70 47 6                      | 10·3                  |
|       | Flamborough, ,, 11 ... 70 36 9         | 70 47 2                      | 10·3                  |
|       | Scarborough, ,, 13 ... 70 41 9         | 70 46 8                      | 4·9                   |
|       | York, ,, 14, 15 ... 70 46 5            |                              |                       |
|       | York, June 14, 15 ...                  | 70 46 5                      |                       |
|       | Sheffield, ,, 17 ... 70 29 6           |                              | 16·9                  |
| 1838. | York, Sept. 13 ... 70 50 25            |                              |                       |
|       | Craike, ,, 14 ... 58 10                |                              | +7·8                  |
|       | Helmsley, ,, 14, 15 ... 71 0 85        | 70° 50'·3                    | ·10·55                |
|       | Malton, ,, 15 ... 70 50 6              |                              | 0·30                  |
|       | York, ,, 17—19... 70 50 35             |                              |                       |
| 1838. | York,* April 27, 28 ...                | 70 45 2                      |                       |
|       | Scarborough,* May 1 ... 70 43 0        |                              | —2·2                  |
|       | Bridlington,* ,, 3 ... 70 38 8         |                              | —6·4                  |
| 1839. | Selby, June 15 ... 70 39 35            |                              | —4·1                  |
|       | York ,, 15, 17...                      | 70 43 45                     | +                     |
|       | Settle, ,, 18 ... 70 58 48             |                              | 15·03                 |
|       | Horton, ,, 18, 19... 53 00             |                              | 9·55                  |
|       | Penyghent, ,, 19 ... 55 85             |                              | 12·40                 |
|       | Litton, ,, 20 ... 59 40                |                              | 15·95                 |
|       | Gearstones ,, 21 ... 59 35             |                              | 15·90                 |
|       | Kirkby Lonsdale, 21 ... 57 40          |                              | 13·95                 |
| 1850. | York, May 16, 17...                    | 70 12 19                     |                       |
|       | Burton Salmon, 17 ... 8 80             |                              | —3·39                 |
|       | York, May 24—28 ...                    | 70 16 33                     |                       |
|       | Arras, ,, 29 ... 8 85                  |                              | —7·48                 |

\* These observations are by Capt. Sir J. C. Ross, R. N.

|                       |          |                  |           | Contemporaneous dip at York. | Difference from York. |
|-----------------------|----------|------------------|-----------|------------------------------|-----------------------|
| York,                 | June 25  | ... 70° ,, 16·75 |           |                              |                       |
| Selby,                | „ 25     | ... 8 90         | 70° 17·67 | —8·67                        |                       |
| York,                 | „ 25     | ... 18 40        |           |                              |                       |
| York,                 | June 27  | ... 70 14 30     |           |                              |                       |
| Pocklington,          | „ 27     | ... 11 92        | 70° 15 87 | —3·95                        |                       |
| York,                 | „ 27     | ... 17 45        |           |                              |                       |
| York,                 | June 29  | ... 70 18 87     |           |                              |                       |
| Harrogate,            | „ 29     | ... 21 95        | 70 18 62  | + 3·32                       |                       |
| York,                 | „ 29     | ... 18 38        |           |                              |                       |
| York,                 | July 2   | ... 70 13 25     |           |                              |                       |
| Scarborough,          | „ 3      | ... 14 42        | 70 13 93  | + 0·49                       |                       |
| York,                 | „ 3      | ... 14 61        |           |                              |                       |
| York,                 | July 3   | ...              | 70 14 61  |                              |                       |
| Howden                | „ 4      | ... 4 20         |           | —10·41                       |                       |
| Hull,                 | „ 4      | ... 3 80         |           | —10·81                       |                       |
| York,                 | July     | ...              | 70 21 00  |                              |                       |
| Castleford,           |          | ... 12 50        |           | —8·50                        |                       |
| ShIPLEY,              |          | ... 18 36        |           | —2·64                        |                       |
| Skipton,              |          | ... 20 76        |           | + 0·76                       |                       |
| Settle,               |          | ... 24 95        |           | 3·95                         |                       |
| Lancaster             |          | ... 34 07        |           | 13·07                        |                       |
| 1851. York,           | April 29 | ...              | 70 18 95  |                              |                       |
| N. Allerton,          | May 17   | ... 70 31 50     |           | + 12·55                      |                       |
| Lazenby,              | „ 17     | ... 70 34 27     |           | 15·32                        |                       |
| Croft,                | „ 19     | ... 70 37 80     |           | 18·85                        |                       |
| 1851. High Force Inn, | Sept. 3  | ... 70 43 10     | —         | + 24·15                      |                       |

To these, I shall add from my observations in 1837 and 1850, some other stations in adjoining counties, compared with York.

|                         |        |
|-------------------------|--------|
| Carlisle, 1837 .....    | + 40·1 |
| Penrith, 1837 .....     | + 35·0 |
| Calderstone, 1837 ..... | — 4·9  |
| Birkenhead, 1837 .....  | — 9·0  |
| Lincoln, 1850 .....     | — 28·0 |
| Newcastle, 1850 .....   | + 29·7 |

In this list the following places occur more than once, viz.:

|                         |   |       |
|-------------------------|---|-------|
| 1837. Scarborough ..... | — | 4·90  |
| 1838.                   | — | 2·2   |
| 1850.                   | + | 0·49  |
| Mean .....              | — | 2·20  |
| 1839. Selby .....       | — | 4·1   |
| 1850.                   | — | 8·67  |
| Mean .....              | — | 6·38  |
| 1839. Settle .....      | + | 15·03 |
| 1850.                   | + | 3·95  |
| Mean .....              | + | 9·49  |

Adopting these means as the nearest available results—and giving to each locality its difference of latitude and longitude (measured in geographical miles) from an assumed centre, we have the following general Table of differences of dips referred to two coordinates,  $x$  and  $y$ , whose origin is a point in the centre of the area in lat. N. 54·6, longit. W. 1·30, at which the dip is made Zero. The measures are given to the nearest mile or minute only.

TABLE A.

| PLACE OF OBSERVATION. | N. or S.<br>centre of<br>area in<br>geog. miles. | E. or W.<br>centre of<br>area in<br>geog. miles. | Dip greater<br>or less<br>than that<br>of mean. |
|-----------------------|--|--|---|
|                       | <i>b</i>   | <i>a</i>   | <i>c</i>  |
| Newcastle .....       | + 52   | + 4  | + 24·7  |
| Carlisle .....        | + 48   | + 49   | + 35·1  |
| Penrith .....         | + 34   | + 44   | + 30·0  |
| High Force .....      | + 34   | + 23   | + 19·1  |
| Croft .....           | + 22   | + 1  | + 13·8  |
| Lazenby .....         | + 27   | — 17   | + 10·3  |
| Whitby .....          | + 23   | — 32   | + 5·3   |
| N. Allerton .....     | + 14   | — 2  | + 7·5   |
| Osmotherley .....     | + 16   | — 7  | + 10·0  |

| PLACE OF OBSERVATION. | N. or S.<br>centre of<br>area in<br>geog. miles. | E. or W.<br>centre of<br>area in<br>geog. miles. | Dip greater<br>or less<br>than that<br>of mean. |
|-----------------------|--|--|---|
|                       | <i>b</i>   | <i>a</i>   | <i>c</i>  |
| Hambleton .....       | + 16   | — 9  | + 11·0  |
| Scarborough .....     | + 11   | — 39   | — 7·2   |
| Thirsk .....          | + 8  | — 6  | + 6·0   |
| Helmsley .....        | + 9  | — 15   | + 5·5   |
| Craike .....          | + 4  | — 14   | + 2·8   |
| Malton .....          | + 2  | — 25   | — 4·7   |
| York .....            | — 8  | — 15   | — 5·0   |
| Flamborough .....     | + 2  | — 48   | — 15·3  |
| Bridlington .....     | + 2  | — 45   | — 11·4  |
| Doncaster .....       | — 35   | — 14   | — 23·5  |
| Harrogate .....       | — 7  | 0  | — 1·7   |
| Sheffield .....       | — 44   | 0  | — 21·9  |
| Pocklington .....     | — 10   | — 25   | — 8·9   |
| Arras .....           | — 14   | — 32   | — 12·5  |
| Selby .....           | — 20   | — 15   | — 11·4  |
| Burton .....          | — 21   | — 9  | — 8·4   |
| Howden .....          | — 21   | — 23   | — 15·4  |
| Hull .....            | — 21   | — 41   | — 15·8  |
| Castleford .....      | — 23   | — 6  | — 13·5  |
| Shipley .....         | — 16   | + 9  | — 7·4   |
| Skipton .....         | — 8  | + 19   | — 4·2   |
| Settle .....          | — 1  | + 28   | + 4·5   |
| Penyghent .....       | + 5  | + 26   | + 7·4   |
| Lancaster .....       | — 3  | + 45   | + 8·1   |
| K. Lonsdale .....     | + 6  | + 38   | + 8·9   |
| Horton .....          | + 3  | + 28   | + 4·5   |
| Litton .....          | + 4  | + 24   | + 10·9  |
| Gearstones .....      | + 7  | + 29   | + 10·9  |
| Birkenhead .....      | — 32   | + 52   | — 14·0  |
| Calderstone .....     | — 33   | + 48   | — 9·9   |
| Lincoln .....         | — 53   | 33   | — 33·0  |

In this series of 40 stations, each weighed separately against an assumed central station, every observation gives rise to an equation of the form

$$a x \pm b y = c,$$

the quantities  $a$ ,  $b$ ,  $c$ , being given in the preceding table. The values of  $c$ , and consequently those of  $x$  and  $y$ , are probably in every instance affected by errors of observation; probably they are also affected by peculiarities of rocks and hills. To obtain from the whole series the most general values of  $x$  and  $y$ , or in other words the mean rates of increase of dip toward the North and towards the West, we must combine them into a general result. The most approved mode of doing so is called the method of *least squares*, because it reduces the sum of the squares of the errors (or differences from the mean value) of all the observations to a minimum. This is accomplished by giving to each equation  $a x + b y = c$ , first a value proportioned to  $a$ , and next a value proportioned to  $b$ ; whence arise two general equations of the form,

$$\begin{aligned} a^2 x \pm a b y &= a c \\ a b x \pm b^2 y &= b c, \end{aligned}$$

yielding by reduction the values of  $x$  and  $y$ , the direction of the isoclinal line compared to the meridian, and the ratio or augmentation of dip ( $r$ ) along the normal to it. Without encumbering these pages with the calculations, which are somewhat troublesome, it may be sufficient, to give an example of the form and state the result.

|                 | $a^2$ . | $a b$ . | $b^2$ . | $a c$ . | $b c$ . |
|-----------------|---------|---------|---------|---------|---------|
| Newcastle ..... | 16      | 208     | 2704    | 100     | 1300    |
| Lincoln .....   | 1849    | 227     | 2809    | 1419    | 1749    |
| Sheffield ..... | 0       | 0       | 1936    | 0       | 968     |

The sums of the several columns are,

$$\begin{array}{lll} a^2. & 31587 & a b. & 4537 & a c. & 8269 \\ b^2. & 21261 & & & b c. & 11961 \end{array}$$

whence we obtain as the most probable mean values, in the whole series,

$$\begin{aligned} y &= \cdot 521 \text{ toward the North.} \\ x &= \cdot 184 \text{ toward the West.} \\ r &= \cdot 553 \text{ toward the N. N. West.} \\ u &= 70^\circ \cdot 31 \end{aligned}$$

The mean isodinal, therefore, crosses the meridian at an angle of  $70^{\circ}31'$  — E. of North; and the normal to it, (the line of maximum increase of dip) lies  $4^{\circ}\frac{1}{2}$  to the East of the magnetic meridian.

These results of calculation are represented on the accompanying map, by parallel lines drawn at intervals of  $10'$  of dip, crossed by the normal through the central point.

TABLE B.

| PLACE OF OBSERVATION. | Dip greater or less than that of the mean. | Calculation with the mean values of $x$ and $y$ . | Difference. |
|-----------------------|--|---|-------------|
| Newcastle .....       | + 24·7                                     | + 27·7  | + 3·0       |
| Carlisle .....        | + 35·1                                     | + 34  | — 1·1       |
| Penrith .....         | + 20                                       | + 25·8  | — 4·2       |
| High Force .....      | + 19·1                                     | + 21·8  | + 2·7       |
| Croft .....           | + 13·8                                     | + 11·6  | — 2·2       |
| Lazenby .....         | + 10·3                                     | + 11  | + 0·7       |
| Whitby .....          | + 5·3                                      | + 6·1   | + 0·8       |
| N. Allerton .....     | + 7·5                                      | + 6·9   | — 0·6       |
| Osmotherley .....     | + 10                                       | + 7   | — 3·0       |
| Hambleton .....       | + 11                                       | + 11·7  | + 0·7       |
| Scarborough .....     | — 7·2                                      | — 1·3   | + 5·9       |
| Thirsk .....          | + 6  | + 3·1   | + 2·9       |
| Helmsley .....        | + 5·5                                      | + 2   | — 3·5       |
| Craike .....          | + 2·8                                      | — 0·4   | — 3·2       |
| Malton .....          | + 4·7                                      | — 3·6   | + 0·9       |
| York .....            | — 5·0                                      | — 6·9   | — 1·9       |
| Flamborough .....     | — 15·3                                     | — 7·8   | + 5·8       |
| Bridlington .....     | — 11·4                                     | — 7·3   | + 4·1       |
| Doncaster .....       | — 23·5                                     | — 20·7  | + 2·8       |
| Harrogate.....        | — 1·7                                      | — 3·6   | — 1·9       |
| Sheffield .....       | — 21·9                                     | — 22·9  | — 1·0       |
| Pocklington .....     | — 8·9                                      | — 9·8   | — 0·9       |
| Arras .....           | — 12·5                                     | — 13·1  | — 0·6       |
| Selby.....            | — 11·4                                     | — 13·1  | — 0·7       |
| Burton .....          | — 8·4                                      | — 12·5  | — 4·1       |
| Howden .....          | — 15·4                                     | — 15·1  | + 0·3       |
| Hull .....            | — 15·8                                     | — 18·3  | — 2·5       |



| PLACE OF OBSERVATION. | Dip greater or less than that of the mean. | Calculation with the mean values of $x$ and $y$ . | Difference. |
|-----------------------|--|---|-------------|
| Castleford .....      | - 13·5                                     | - 13  | + 0·5       |
| Shipley .....         | - 7·4                                      | - 6·7   | + 0·7       |
| Skipton .....         | - 4·2                                      | - 0·7   | + 3·5       |
| Settle .....          | + 4·5                                      | + 4·6   | + 0·1       |
| Penyghent .....       | + 7·4                                      | + 7·4   |             |
| Lancaster .....       | + 8·1                                      | + 6·7   | - 1·4       |
| K. Lonsdale .....     | + 8·9                                      | + 9·9   | + 1·0       |
| Horton .....          | + 4·5                                      | + 6·7   | + 1·8       |
| Litton .....          | + 10·9                                     | + 6·5   | - 4·4       |
| Gearstones .....      | + 10·9                                     | + 8·9   | - 2·0       |
| Birkenhead .....      | - 14·                                      | - 7·1   | + 6·9       |
| Calderstone .....     | - 9·9                                      | - 8·4   | + 1·5       |
| Lincoln .....         | - 33·                                      | - 33·6  | - 0·6       |

In Table B, appear the results of a calculation made with the mean values of  $x$  and  $y$ , applied to each of the places of observation. The third column shews the difference between the general calculation and the individual observations. The differences are for the most part small, yet they exceed the errors of observation, and indicate an effect of the great physical features of Yorkshire in the direction of the Isoclinal lines. They are represented on the map already referred to, by lines passing from the several stations to distances proportioned to the differences. These lines indicate the direction and extent to which the Isoclinals must be shifted, to make them fit the observations.

On regarding attentively the map, it will be evident that in all the district parallel to the normal, which is the great Vale of York, the isoclinals require to be drawn with a loop retiring southward from the general parallel; but over the western hills, and still more remarkably over the eastern hills, the line must return somewhat sharply to the northward. The amount of these deviations from the parallel must not be estimated by single cases, but on the average; and the result becomes more

and more probable in proportion to the number of cases averaged. We may first examine in this point of view the dips in the Vale of York. Those which are marked + require the Isoclinal to go northward, the — sign indicates its removal southward.

|                   | +                      | —    |
|-------------------|------------------------|------|
| Croft .....       |                        | 2·2  |
| Allerton .....    |                        | 0·6  |
| Osmotherley ..... |                        | 3·0  |
| Hambleton .....   | 0·7                    |      |
| Thirsk .....      |                        | 2·9  |
| Craike .....      |                        | 3·2  |
| York .....        |                        | 1·9  |
| Harrogate .....   |                        | 1·9  |
| Pocklington ..... |                        | 0·9  |
| Selby .....       |                        | 0·7  |
| Burton .....      |                        | 4·1  |
| Castleford .....  | 0·5                    |      |
| Doncaster .....   | 2·8                    |      |
| Sum .....         | 4·0                    | 21·4 |
| Difference .....  | 17·4                   |      |
| Mean .....        | 1·3 or in Geographical |      |
| Miles .....       | 2·5                    |      |

Similarly we may group the dips observed on the hilly region near the eastern coast.

|                   | +                       | — |
|-------------------|-------------------------|---|
| Lazenby .....     | 0·7                     |   |
| Whitby .....      | 0·8                     |   |
| Scarborough ..... | 5·9                     |   |
| Flamborough ..... | 5·8                     |   |
| Bridlington ..... | 4·1                     |   |
| Sum .....         | 17·3                    |   |
| Mean .....        | 3·46 or in Geographical |   |
| Miles.....        | 6·25                    |   |

The localities in the district west of the Vale of York are too widely scattered, to admit of advantageous grouping in one

sum, and it is only about the sources of the Aire and Ribble, that they are numerous enough to afford a safe average.

|                  | +   | —   |
|------------------|-----|-----|
| Gearstones ..... |     | 2·0 |
| Horton .....     | 1·8 |     |
| Penyghent .....  |     |     |
| Settle .....     | 0·1 |     |
| Litton .....     |     | 4·4 |
| Skipton .....    | 3·5 |     |
| Shipley.....     | 0·7 |     |
|                  | 6·1 | 6·4 |

These numbers are so nearly balanced as to indicate that the principal local peculiarity in the district belongs to the Vale of York and the Eastern hills,—these contrasted regions having contrary actions on the needle. These actions, whatever they are, die out to the northward, southward and westward, and it becomes an interesting question, whether the curvatures of the Isoclinals be due to the amazing abundance of carbonate, and protoxide, of iron in the hilly district, or to some other mineral quality or structural arrangements of the rocks.

Dotted lines are drawn on the map to represent the curvatures of the isoclinals obtained by this discussion. I shall only remark, in confirmation of the general conclusions here arrived at, that magnetic and diamagnetic effects on a suspended needle ought probably to be looked for as a simple consequence of the superposition of strata and their pressure on one another. It seems within the range of possibility to discover by means of the magnet the position assumed by strata far below the surface, and thus to arrive at important knowledge attainable by no other process.

### *On Magnetic Intensity.*

The first observations which I made on this subject had for their object to determine the mean direction of the Isodynamic lines, and the rate of the change of magnetic force in the

normal to these lines. They were performed at intervals from 1833 to 1836. The method employed was that of counting the vibrations of an equipoised needle set to vibrate in the plane of the magnetic meridian and dip, in a given time. From these observations corrected for temperature, and calculated, results were obtained which shewed that the magnetic force increased to the northward and westward.

In 1838, Col. Sabine sent me some needles which, in his researches, had been suspended by untwisted silk fibres, and submitted to horizational vibration. The rate of this vibration is determined by the magnetic force ( $I$ ) but not by the whole of it; it is, in fact, a part of that force which grows less and less as the dip ( $\delta$ ) augments, and may be represented by  $I \times \text{Cos}$  of the dip.

By comparative observations with these needles at Tortington (Sussex) and London, by Col. Sabine, and at York and Westbourne Green, near London, by myself, we obtain, after suitable corrections for temperature, &c.

|                         |     |         |
|-------------------------|-----|---------|
| Total Intensity at York | ... | 1·0149  |
| „ „ London              | ... | 1·0000* |

From a series of vibrations observed by Capt. Sir James Ross, in 1838, the ratio of intensity at York and London was found 1·0094.

The relative intensity of magnetism at York and London was examined by two other courses of experiment. In the statical method of Dr. Lloyd, an originally equipoised needle is magnetized, and afterwards thrown out of equipoise by the addition of a *known weight* toward one *end*. By this arrangement the needle is made to take up positions under the double influence of gravity and magnetism: and by these positions, compared with that assumed under the influence of magnetism alone, the relative influence of the two becomes known. By removing the small weight the dip is determinable separately. Professor Christie made a different arrangement: by placing a small weight under the axle, the equipoise of the needle was

\* Reports of the British Association for 1838.

disturbed with reference to its *sides* ; and, this needle with its weight, can be conveniently employed to determine both dip and intensity by the *same observations*.

By Dr. Lloyd's method I found the following comparative data for York and London in February and March, 1838.  $\theta$  is the angle by which the needle deviates from the horizontal, when suspended in the magnetic meridian.

|                           | Temp.   | $\theta$      | $\delta$      |
|---------------------------|---------|---------------|---------------|
| 1838, Feb. 19, York ..... | 33° ... | — 16° „ 54 .8 | } 70° „ 48 .8 |
|                           | 38° ... | — 16 55 .2    |               |
| Mar. 28, London .....     | 58° ... | — 19 22 .2    | 69 19 .6      |

From which by the formula  $\frac{\cos \theta}{\sec (\delta - \theta)}$  and a small correction for temperature, we have

|                           |        |
|---------------------------|--------|
| Intensity at London ..... | 1·0000 |
| „ at York .....           | 1·0126 |
| Again in 1850 .....       | 1·0128 |

By Professor Christie's method, which requires calculations reducible to the same form as Dr. Lloyd's, I found the intensities at York and London—in 1837, 1838, and 1850.

|       |                 |
|-------|-----------------|
| 1837, | 1·0125 to 10000 |
| 1838, | 1·0075          |
| 1850, | 1·0089          |

---

Mean ... 1·0093

If we now collect all these results in one point of view we find the ratio of the intensity at York to that in London.

|                            |                 |            |  |
|----------------------------|-----------------|------------|--|
| By Vibrations .....        | 1·0149          | } 1838 ... | Mean.  |
|                            | 1·0094          |            |  |
| By Lloyd's Needle .....    | 1·0126 ... 1838 | } 1·0127   |  |
|                            | 1·0128 ... 1850 |            |  |
| By Christie's Needle ..... | 1·0115 ... 1837 | } 1·0093   |  |
|                            | 1·0075 ... 1838 |            |  |
|                            | 1·0098 ... 1850 |            |  |
| General mean .....         |                 |            | <hr style="width: 10%; margin: auto;"/> 1·0114 <hr style="width: 10%; margin: auto;"/> |

At intervals from 1837 to 1853, observations of intensity were made both with Lloyd's Needle, and Christie's Needle, mostly at the same times and places as those already mentioned while treating of the dip. At each observation, the temperature was recorded, and to the result a suitable correction was applied. The needles during this long period have lost in magnetic force—at first the loss was rapid, afterwards more slow. In the case of Lloyd's needle, the intensity indicated at York has sunk through the following series (corrected for temperature.)

|   |        |                      |       |
|---|--------|----------------------|-------|
| 1837, June 3, 5, 15, (5 obs.) .....     | 9647   | } Loss in 15 months  |       |
| 1838, Aug. 1, Sept. 7, Oct. 2, (4 obs.) | 9572   |                      | ·0075 |
| 1838, Feb. 19, 20, Sept. 4, 5, 7, 13,   | }      | } Loss in 9 months   |       |
| 17, 19 (8 obs.) .....                   |        |                      | 9557  |
| 1846, Aug. 26 .....                     | 9307   | } Loss in 120 months |       |
|   | 9302   |                      | ·0255 |
| 1850, May 16, 24 .....                  | 9297·0 |                      |       |

After this observation, the needle was, by accident, (the only one which has happened to it in 16 years) dropped. The magnetism was then found—

|  |               |   |
|--|---------------|---|
| 1850, May 24 ...                                       | 9159·7        | After which the rate of loss<br>has been continued. |
| 1851, April 29 ...                                     | 9126·4        | } Loss in 38 months                                 |
| 1853, Aug. 2 ...                                       | 9095·6        |   |
| Whence the rate of loss in 1837, was ·0005 in a month. |               |   |
|  | in 1837—8,    | ·0001·7   |
|  | in 1838—1848, | ·0002·1   |
|  | in 1850—1853, | ·0001·7   |

The subjoined Table gives the relative Intensities at several stations in the county, and a few beyond it; each observation being corrected for temperature, and referred to a general scale by comparison with nearly contemporaneous experiments at York. The geographical centre of this series is almost exactly the same as that of the series of dips.

| Place of Observation. | N. or S. of<br>centre of<br>area in<br>geog. miles. | E. or W. of<br>centre of<br>area in<br>geog. miles. | Observed<br>Intensity<br>(Mean=9654) | Difference<br>of Intensity<br>from the<br>Mean. |
|-----------------------|---|---|--------------------------------------|---|
|                       | <i>b</i>  | <i>a</i>  |                                      | <i>c</i>  |
| Newcastle .....       | + 52  | + 4   | 9694                                 | + 40  |
| Carlisle .....        | + 48  | + 49  | 9719                                 | + 65  |
| Penrith .....         | + 34  | + 44  | 9710                                 | + 56  |
| Croft .....           | + 22  | + 1   | 9664                                 | + 10  |
| Lazenby .....         | + 27  | — 17  | 9672                                 | + 18  |
| Whitby .....          | + 23  | — 32  | 9659                                 | + 5   |
| N. Allerton .....     | + 14  | — 2   | 9676                                 | + 22  |
| Osmotherley .....     | + 16  | — 7   | 9660                                 | + 6   |
| Hambleton.....        | + 16  | — 9   | 9663                                 | + 9   |
| Scarborough .....     | + 11  | — 39  | 9649                                 | — 14  |
| Thirsk .....          | + 8   | — 6   | 9688                                 | + 34  |
| Helmsley .....        | + 9   | — 15  | 9657                                 | + 3   |
| Craike .....          | + 4   | — 14  | 9667                                 | + 13  |
| Malton .....          | + 2   | — 25  | 9623                                 | — 31  |
| York .....            | — 8   | — 15  | 9652                                 | — 2   |
| Flamborough.....      | + 2   | — 48  | 9604                                 | — 50  |
| Doncaster .....       | — 35  | — 14  | 9637                                 | — 17  |
| Harrogate .....       | — 7   | 0   | 9696                                 | + 42  |
| Sheffield .....       | — 44  |   | 9632                                 | — 22  |
| Pocklington .....     | — 10  | — 25  | 9652                                 | — 2   |
| Arras .....           | — 14  | — 32  | 9630                                 | — 24  |
| Selby .....           | — 20  | — 15  | 9634                                 | — 20  |
| Hull .....            | — 21  | — 41  | 9627                                 | — 27  |
| Skipton .....         | — 8   | + 19  | 9659                                 | + 5   |
| Settle .....          | — 1   | + 28  | 9687                                 | + 33  |
| Lancaster .....       | — 3   | + 45  | 9670                                 | + 16  |
| K. Lonsdale .....     | + 6   | + 38  | 9644                                 | — 10  |
| Horton .....          | + 3   | + 28  | 9632                                 | — 22  |
| Litton .....          | + 4   | + 24  | 9652                                 | — 2   |
| Gearstones .....      | + 7   | + 29  | 9645                                 | — 9   |
| Birkenhead .....      | — 32  | + 52  | 9658                                 | + 4   |
| Calderstone .....     | — 33  | + 48  | 9616                                 | — 38  |
| Lincoln .....         | — 53  | — 33  | 9596                                 | — 58  |
| Driffield (1853)...   | — 4   | — 38  | 9613                                 | — 41  |

Having formed equations exactly as in the process already explained for the dip, the sums of the several columns are found to be :—

$$\begin{array}{lll} a^2. 29074 & a b. 3203 & a c. 13259 \\ b^2. 18425 & & b c. 15152 \end{array}$$

whence,

$$\begin{array}{l} x = \cdot 37193 \\ y = \cdot 75762 \\ u = 63,51 \\ r = \cdot 8440 \end{array}$$

The Isodynamic lines, which result from this computation, are drawn on the Map.

In Table B', the mean values of  $x$  and  $y$  are employed for calculating the Intensity at each of the 35 Stations; the third column shews the differences between calculation and observation.

TABLE B'.

| PLACE OF OBSERVATION. | Observed Intensity greater or less than the mean. | Calculated Intensity greater or less than the mean. | Difference of calculation from observation. |
|-----------------------|---|---|---|
| Newcastle .....       | + 40  | + 41·0  | + 1   |
| Carlisle .....        | + 65  | + 54·6  | — 10·4                                      |
| Penrith .....         | + 56  | + 42·1  | — 13·9                                      |
| Croft .....           | + 10  | + 17·1  | + 7·1                                       |
| Lazenby .....         | + 18  | + 14·2  | — 3·8                                       |
| Whitby .....          | + 5   | + 5·6   | + 0·6                                       |
| N. Allerton .....     | + 22  | + 9·9   | — 12·1                                      |
| Osmotherley .....     | + 6   | + 9·6   | + 3·6                                       |
| Hambleton .....       | + 9   | + 8·8   | — 0·2                                       |
| Scarborough .....     | — 14  | — 6·0   | + 8·0                                       |
| Thirsk .....          | + 34  | + 3·9   | — 30·1*                                     |
| Helmsley .....        | + 3   | + 1·3   | — 1·7                                       |
| Craike .....          | + 13  | — 2·2   | — 15·2                                      |
| Malton .....          | — 31  | — 7·7   | + 23·3*                                     |
| York .....            | — 2   | — 11·6  | — 9·6                                       |
| Flamborough .....     | — 50  | — 16·2  | + 33·8*                                     |



| PLACE OF OBSERVATION. | Observed Intensity greater or less than the mean. | Calculated Intensity greater or less than the mean. | Difference of calculation from observation. |
|-----------------------|---|---|---|
| Doncaster .....       | -17   | -31.8   | -14.8                                       |
| Harrogate.....        | +42   | -5.3  | -47.3*                                      |
| Sheffield .....       | -22   | -33.4   | -11.4                                       |
| Pocklington .....     | -2  | -16.8   | -14.8                                       |
| Arras .....           | -24   | -22.4   | +1.6  |
| Selby.....            | -20   | -20.7   | -0.7  |
| Hull .....            | -27   | -31.2   | -4.2  |
| Skipton .....         | +5  | +0.9  | -4.1  |
| Settle .....          | +33   | +9.6  | -23.4*                                      |
| Lancaster .....       | +16   | +13.4   | -2.6  |
| K. Lonsdale .....     | -10   | +18.6   | +28.6*                                      |
| Horton .....          | -22   | +12.6   | +34.6*                                      |
| Litton .....          | -2  | +11.7   | +13.7                                       |
| Gearstones .....      | -9  | +16.0   | +25*  |
| Birkenhead .....      | +4  | -5.1  | -9.1  |
| Calderstone .....     | -38   | -7.2  | +30.8*                                      |
| Lincoln .....         | -58   | -52.5   | +5.5  |
| Driffield .....       | -41   | -17.1   | +23.9*                                      |

The asterisks mark the observations which deviate remarkably from the mean. Two observations, in which the deviations are excessive and due to local causes, are omitted. These are High Force where the intensity is *reduced* by the proximity of the greenstone, and Penyghent where, perhaps from the great elevation of the mountain (2300 feet), the intensity is much below the average of the district.

It does not appear practicable, from these observations on Magnetic Intensity, to draw any safe conclusions as to the degree in which it is influenced by the masses of ground in Yorkshire. The observations appear not so surely to be trusted as those of the Inclination—the *limits of error of observation*—perhaps the influence of *very local* causes—appear to be great, and to require numerous experiments before the exact results can be obtained.

*Report of the Proceedings of the Yorkshire Antiquarian Club, in the Excavation of Barrows from the year 1849.—By WILLIAM PROCTER, ESQ., M. R. C. S., Hon. Secretary to the Club.*

This paper has for its object an account of the proceedings of the Yorkshire Antiquarian Club, in the examination of Barrows, a branch of archæological research of great importance in the elucidation of matters connected with pre-historic ages. In many cases we have no other means of arriving by analogy and comparison at a knowledge of the habit, rise, customs and ethnology of a people long since passed away; and no other clue to the real age and period of numerous remarkable structures. To such the attention and examination of the Yorkshire Antiquarian Club has been especially directed; barrows have been opened at Danesdale, Acklam, Driffield, Skipwith, Huggate, Thixendale, Arras, Hutton Cranswick, Ampleforth, and Aldrow; from the reports which were furnished by Professor Phillips, Dr. Thurnam, Mr. Jessop, and the Secretary, the following results are compiled.

#### ACKLAM.

On Acklam Wold and the surrounding hills are a large number of tumuli; to them the attention of the Club was first directed. The excavation of three was made in August, 1849. In the first, about a foot from the surface, was discovered a large quantity of calcined bones, and among them was a beautiful bone pin, 9 inches in length: near the top a perforation passes completely through the bone. The excavation was continued to the depth of 4 feet, when a skeleton presented itself to the excavators; it was that of a male, laid on the right side, with the head to the north, and feet to the south, the arms brought forward, and bent at the elbows, one of them touching the drawn-up knees. At this point was discovered a small urn, sunbaked, presenting no marks of the wheel, and having the other characters in figure and ornament of British

workmanship ; it was 21 inches in circumference at the upper edge, and 6 inches high.

The second tumulus examined was much less elevated, and gave different results to the preceding one. About a foot from the surface was discovered a broken urn, of very large dimensions, probably 60 inches in circumference, full of human calcined bones, and surrounded by blue and variously coloured clays. This urn, though different in detail, had the same *general* character as that taken from the first barrow. No skeleton by further digging was discovered.

The third mound inspected on this occasion was the smaller of two, surrounded by a fossa commonly called a twin barrow. In the interior a curious arrangement of chalk and flint rubble occurred, frequently found in these works on the wolds, and in it some loose bones with slight marks of fire, but no urn or skeleton.

In the following October, a second examination of the group of barrows was undertaken by the Club, and the operations were commenced on the twin barrow of the one last described. About a depth of 3 feet from the surface the original deposit was found, consisting of a small skeleton, the head slightly directed to the north of east and the feet east of south, placed on the right side with the face to the north ; the arms were bent on the chest, with the legs doubled up under the thighs, which were bent at right angles to the body. About a foot from the skull, to the north, was a small vase of baked clay, measuring  $5\frac{1}{2}$  inches in diameter at the mouth, and  $3\frac{1}{2}$  inches high, and capable of holding about a pint ; it contained a dark unctuous looking earth, abounding in organic matter, and a thin fragment of pottery which had, judging from certain characters, originally formed the cover of the vessel in which it was found. Extending from the vase to the knees of the skeleton, which were curiously discoloured as if scorched, was a large deposit of burnt human bones, among which were a few foetal bones, and a large bone pin.

The largest tumulus of the group was now made the object of search. It was found to be composed of chalk rubble and

clay, and afforded no evidence of interment. The examinations of the larger mounds in this district render it extremely probable that they were not for the purpose of burial, but raised for the sake of observation or the performance of religious rites.

The seventh tumulus is placed near the brow of the wold overhanging the village of Acklam. It had been opened before, but in it was found part of a broken urn, a disturbed human skeleton with evidence of cremation, and the horn core of an ox. Five other tumuli were opened, but in none was any mark of interment presented.

#### HUGGATE.

In October, 1849, the members of the Club continued their researches in this district at Huggate. About a mile from this village, in a field on elevated ground, called Howe field, is a group of several tumuli; they are at considerable distances apart, and varying in height from 2 to 6 feet, the central mound being much the largest, which forms an exception to all the others in exhibiting the remains of entrenchment. Four of these tumuli were examined, but all proved singularly unproductive, and there is reason to conclude that they had been previously opened.

However, sufficient evidence was obtained of their character as early British tumuli: they consist of dry loamy earth, mixed with clay and fragments of flint. In the first tumulus was found the remains of a skeleton much disturbed; the vertebræ remained *in situ*, and from its position, the body had been deposited in the meridian line. The second yielded only a bit of unwrought amber. In the third, at about one foot from the surface, were fragments of a small vase or drinking cup of very early British pottery, of slightly conical shape; with these fragments were traces of charcoal, mixed with a black earth. The fourth tumulus examined was the smallest. In the centre, at the depth of about 18 inches, was a heap of large flints, much discoloured by fire. Amongst the flints were traces of charcoal, and a red powder like brick dust; east of this small cairn were portions of two skeletons, but no marks of fire were met with.

## THIXENDALE.

The next excavations of the Club were made at a farm called Riggs, the property of Mr. Seymour, and situated in the parish of Thixendale. In a field, called the Howe field, are situated two large barrows; they are of very considerable height, about 160 feet apart, surrounded each by a separate trench; in an adjoining field, to the south, is a third small tumulus, having an elevation of 2 or 3 feet.

In the year 1844, whilst digging into the most southerly mound and near its base, a British vase of sundried clay was discovered. It is  $5\frac{1}{2}$  inches high and  $6\frac{1}{2}$  inches in diameter at the mouth, coloured with some black earthy matter, and had been deposited in a sort of circular pavement of chalk stone. The clay of the tumulus was stated to have been of an unctuous character, and to have presented an appearance of alternate striæ, varying from a reddish brown to a blue grey. Since the period of the visitation of the Club, the tenant, Mr. J. Buckle, has presented to the Society a remarkably fine celt of bronze, which had been turned up in ploughing. This, and the urn presented by Mr. Seymour, are now in the Museum of the Yorkshire Philosophical Society.

The adjoining tumulus was at least 12 feet in height, having a circumference within the wide and almost obliterated trench of 260 feet. After digging about 6 feet through fragments of chalk and flint, near the centre, a deposit of burnt human bones with some traces of charcoal, was reached, and separated from them, by about a foot of earth, was a heap of large flints, many of them exhibiting traces of the action of fire. This cairn was 2 feet in height and 5 feet in diameter, and 2 feet in depth, raised on a bed of clay spread on the natural chalk rock. Among the flints were traces of a grey sooty like matter, and at the bottom of the cairn, beneath charred flints, were portions of a deer's horn much decayed, and a few scattered bones of the rat.

## ALDROW.

The examination of the large series of Wold tumuli, extending from Acklam to Huggate, was rendered complete by

the excavations of the Club on the mounds at Aldrow, in August, 1853. Aldrow is the name given to a farm on a table-land near Birdsall, 750 feet above the level of the sea; on it are tumuli surrounded by enormous British works. A bank, with a double entrenchment extends to Acklam one way and the other beyond Huggate. Near Aldrow farm the entrenchment encloses a square plot of ground within which are several barrows. In the north angle is a mound to which Professor Phillips restricts the name of Rath, where the double dyke seems to twist itself into a knot. It exhibits evidence of having been opened, but no record could be obtained of the results of the examination.

An exception to the usual situation of barrows was discovered about half a mile north of Aldrow, in a beautiful and secluded little vale, near where a small stream springs from the Kimmeridge clay. Here is a large mound with a double entrenchment; on this occasion time only allowed of its partial exploration: it was composed of chalk rubble and flint, but the examination did not allow of the determination whether it formed a resting place for the Brigantian dead, or was the site of his devotions in life; as a spot for observation the low situation was unsuitable.

On this occasion, three of the British tumuli near the northern edge of the wold were examined. The first, a low one, yielded no results beyond a few burnt human bones and charcoal. The other two were close together; in the most northern, about two feet below the surface, an urn of the usual sundried clay, ornamented with impressed puncta in circular belts, rewarded the labours of the Club.

On further investigation, layers of carbonaceous matter, mixed with an unctuous matter and clay containing human bones, with a few of the horse and bird, were found. The third, like the others, was composed of chalk rubble, mixed with small flints and layers of clay. After digging between 4 and 5 feet, a peculiar efflorescent matter, covering the clay mixed with charcoal, was arrived at, and below this numerous large and flat pieces of the natural rock, laid in some order and

with some resemblance to a cairn; these layers of stone were followed to some distance, but yielded no results. The arrangement of the tumuli and the discovery of the vase could leave no doubt that they were of British origin.

The line of tumuli thus examined extends across a considerable portion of the east Wolds, from Acklam to Huggate and to Arras, if that place can be included in the series. This district certainly formed part of an extensively populated Brigantian territory, which had its boundaries much farther northward and eastward; and traces of its ancient inhabitants are abundantly left in the numerous earthworks consisting of trackways, dykes, and barrows. The part, from its elevated situation, supply of herbage and water, and vicinity to the sea coast, was one well calculated to supply all the simple wants of a rude people. The well marked line of double dykes extending from Acklam to beyond Huggate, may be looked upon as belonging to the class of rural fortifications to some of which the Romans gave the name of *Oppida*; constructions required by a people leading a pastoral life, who dwelt within the bounds of entrenchment surrounded by forests, and adopted at a period later than the mere pits and rings.

The barrows vary much in size, from a slight elevation to upwards of 12 or 14 feet. With regard to the materials of which they are composed, considerable uniformity prevails: the surrounding flints and rubble form the greater part of the mounds, sometimes intermixed with clay; and, in by far the larger number of cases, this substance was found about the spot of interment and bottoms of cairns. Though this clay is found in great quantity below the chalk, in some instances it must have been transported from a considerable distance to the barrow. Beyond flint arrow heads and a few ornaments of bone, the number of articles discovered in the tumuli have been few. The quantity of pottery has been large, with every character of early British manufacture. The determination of the period of this Brigantian district is almost entirely a matter of speculation, but there are, nevertheless, some facts which may guide to an approximation respecting their age. Supposing the whole

series to be contemporaneous, bronze instruments must have been used at that period, as is evidenced from the Celt found at Riggs. Coupled with the undoubted evidence which occurs of the contemporaneous practice of cremation and burial of the body; the extensive and complicated entrenchments mark long time and settled occupation, perhaps stretching over the whole period from very early Brigantian into Romano-British periods.

#### ARRAS.

At Arras, a farm on the hill, about three miles from Market Weighton, at an elevation of more than 300 feet, overlooking a vast extent of country, and at a neighbouring farm Hessleskew, are a numerous class of barrows, above 200, a large number of which had been opened by the Rev. E. Stillingfleet, in 1815—16—17. This locality was visited by the Yorkshire Antiquarian Club in May, 1850, and three of the tumuli were examined. Only one of them gave decisive results: it was a barrow of slight elevation; and at the depth of 3 feet in chalk rubble a human skeleton was found in very good preservation, laid nearly on the face, with the head to the north, and the face turned somewhat eastward and downwards. The arms were so placed beneath the body that they covered the knees, which were bent and drawn up to the chin. The thigh bones each measured 19 inches. Near the upper part of the body were found the skull and one or two other bones of a pig. The second tumulus was composed of chalk rubble with clay, but afforded no vestiges of interment. The third tumulus examined was on the Hessleskew side of the road close to the hedge, and presented marks of having been previously opened, from the disturbed state of the bones and structure of the barrow. One exception to the general character of the works in this district was observed, in a tumulus being surrounded by a square instead of a round fossa.

#### DANES DALE.

Near the east edge of the Wolds, three miles north of Driffield, is a secluded spot of wooded ground measuring 4 acres, covered with tumuli of slight elevation, so closely



arranged as not to leave more than 3 to 6 feet between any two of them. There remain from 150 to 200 of them, known as the "Danes' Graves." The form is circular, with an average diameter of 18 feet, and an elevation from 2 to 3 feet.

In August, 1849, six of the tumuli were opened. Each was found to consist of the chalk of the district, mixed with a small proportion of earth. A few scattered nodules of the decomposed iron pyrites, which occur in the chalk, were also found. In the centre of the first tumulus was a skeleton, having the head to the north and feet to the south; it was laid on the face, with the limbs doubled beneath the trunk; the bones of the arms, forearms, and of the legs and thighs, were found side by side; the hands and face, elbows and knees, and the feet and hips, being severally in contact. Close to the skull were the fragments of a vessel of rude earthenware, about a pint in capacity; it is of a grey colour, and is composed of clay with numerous fragments of chalk and calcareous spar. It was of cylindrical form, widening towards the mouth, with a projecting rim at the bottom. It had been imperfectly baked, and probably made on the wheel. In No. 2, was a skeleton laid in the same position and direction as the preceding skeleton. Close to the skull was a broken urn of the same general character and composition as the former example, except being of a black colour and very fragile. Its shape seems to have been somewhat globular. On opening No. 3, a skeleton only was found in the same contracted position, with the head to the south south-west, and the feet to the north-north-east, laid on the left side with the face to the west. In the fourth tumulus, a skeleton was discovered placed in a directly opposite position to No. 3, viz., with the head to north-north-west, and facing the west. A second skeleton, lying in the same contracted position on the right side, with the head to the north and face to the west, was met with. Besides a piece of iron much corroded, of a flat and semicircular form, beneath the body, no other remains were seen. The sixth barrow was a large one, 5 feet high and 25 feet in diameter; after a most careful examination no vestige of interment or other deposit could be found.

## DRIFFIELD.

A large number of weapons and ornaments and several skeletons were found in this mound by accident, in 1848. Many of the former are now in the Museum of the Yorkshire Philosophical Society, and have been described by Mr. Wellbeloved, in the *Journal of the British Archæological Association*, vol. 7, for 1846. The remaining part of the tumulus was examined by the Yorkshire Antiquarian Club, in August, 1849, and was less rich in sepulchral deposits than the portion removed. At the north side was found a skeleton of large stature with feet to the east; stretched across the body was a large iron knife, the blade of which is above 8 inches long. Near the shoulder were two iron spear heads, 14 and 8 inches in length, with the points upwards. The second skeleton had probably been interred with the preceding, and was that of a female, placed in a half sitting posture, with the skull raised and face to the east. Around the neck were five beads, a large one of amber, and four smaller cylindrical ones of baked clay or vitrified paste of a bronze red colour marked in striæ; they were of exquisite manufacture, displaying great ingenuity and no mean amount of art. By the left leg was found a round iron spike, which had probably formed the lower end of the shaft of a spear, the head of which was found near the shoulder of the first skeleton. In No. 3, was a female skeleton, with the head to the north. On the neck was a necklace of beads of amber, glass, and vitrified paste, there being not fewer than from 40 to 50, of various sizes. Near each shoulder was a small fibula, in the form of a flat ring in bronze, about 2 inches in diameter, and but slightly ornamented, and around each wrist an amulet of small glass and amber beads. On each side, above each knee, was a small iron knife with remains of a wooden handle, and adjoining some rings and pieces of iron. What this article had been is uncertain; it is not improbable that it was the remains of a horse's bit. Other small articles of bronze, probably fastenings of the dress, were also found. Two beads of rock crystal, neatly drilled, were among the spoils of this Anglo-Saxon burial place.

## HUTTON-CRANSWICK.

The tumulus is situated in a tilled field, the property of the Rev. R. Rigby, about half a mile from Hutton Cranswick, and adjoining the high road to Skerne, and the sea coast. It covers about half an acre of ground, but its height has been considerably diminished by tillage, and the same cause has removed all indication of a vallum, if one existed at any time.

The examination was commenced on the top, in the centre of the barrow, and about two feet below the surface indications of interment presented themselves, shown by layers of dark carbonaceous earth, mixed with portions of incinerated bones, which were almost all if not entirely human; imbedded in this earth was a small urn about  $2\frac{1}{2}$  inches in depth, and diameter of the mouth and base being nearly the same, viz.,  $2\frac{1}{2}$  inches, tolerably thick, and in shape resembling somewhat a poppy head, and composed of sun-dried clay of rude manufacture. It is an example of the incense cup, and perforated with four rows of small holes, which have passed from the exterior to the interior, though some are now blocked up with sand, &c. This cup is in a very good state of preservation, and was placed with its mouth upwards, containing burnt human bones mixed with charcoal and sand, of which the tumulus is composed. After passing through other layers of bones and carbonaceous matter for about a foot, portions of another large urn were discovered, but not sufficient in quantity to give a just and correct idea of its shape and dimensions; near some of the portions was a tusk, perforated through the centre as though for suspension, probably as a personal ornament. A little deeper than these relics a large and beautiful specimen of the rude, early unbaked sepulchral urn was reached, placed with its mouth upwards; in removal it was unfortunately much damaged: the dimensions  $9\frac{1}{2}$  inches diameter of the mouth, and  $13\frac{1}{2}$  inches in depth. In it was found a small singular vessel of clay, devoid of ornament and roughly made; it measures across the mouth, which is circular, 1 inch, and is  $\frac{2}{3}$  of an inch in depth. It is extremely probable that the portions of broken pottery were, when entire, the dish in which the large sepulchral urn was placed; under

such circumstances these large sepulchral urns being not unfrequently found. This opinion receives corroboration from the form of it having apparently been flat, and being ornamented with the zig-zag pattern peculiar to such vessels. Little doubt can arise respecting the age of this place of interment: the character of the pottery not made with the wheel and the ornament of bone indicate it, with some precision, to be British, though (if we are to agree with Sir R. Hoare) not of the earliest period, but to that comparatively later time when the ashes or bones were deposited in an urn. Some would conceive that the presence of the incense cup would serve to indicate a more advanced period of civilization, but this is probably not a well ascertained matter. The existence of numerous barrows in the district tends to show that this locality was inhabited by an early race of people, who, from the evidence afforded by an investigation of their tombs, had made but little progress in the arts of civilization.

#### AMPLEFORTH.

The other tumuli on high ground, which have been examined by the Yorkshire Antiquarian Club, are those on Ampleforth Moor, near Helmsley, at an elevation of 869 feet. This spot possesses singular antiquarian interest, being the situation of a camp, dyke, and sepulchral monuments, and crossed by Roman and British roads in several directions. The group of tumuli is placed on the summit of the hill, on the line of ancient trackway which runs nearly parallel to Dropping Gill.

The first tumulus examined was a very large one, 250 feet in circumference and above 7 feet high. On digging into it the mass was found to be composed of sand and clay, with a few stones, charcoal of oak, bits of flints, some of which were probably rough arrow heads, and traces of burned heath or peaty substance. In the clay, which must have been brought from a distance, placed on the level of the original soil, an urn of British manufacture was found, of the usual sun-dried clay, and ornamented with the ordinary marks; it was so much broken that its size cannot be stated with accuracy. The smaller

tumulus, No. 2, about 4 feet in elevation, was composed of sand and clay, as in the preceding example. In the clay, at a short distance from the surface, were found portions of five urns, but the probable shape of four only could be ascertained from the remains. The tumuli are, from these data, undoubtedly British, and must all be referred to that early period, to which belongs the rude sun-dried pottery, flint arrow heads, and the cremation of the dead.

#### SKIPWITH.

On Skipwith Common, ten miles south-east of York, are many conspicuous tumuli, which are, by popular tradition, connected with the defeat of the Norwegian army which landed at Riccall, and after defeating the Northumbrians at Fulford, was overwhelmed by the English at Stamford Bridge. Here the tumuli are called Danes' Hills. These tumuli are situated about three quarters of a mile south-west of Skipwith church; other tumuli, much resembling these, are found on another portion of common land about the same distance north-east of Skipwith church. The road from Skipwith to Riccall passes by the former, that from Skipwith to Wheldrake and Stamford Bridge by the latter. If the tradition were correct, that these mounds are the graves of the Norwegians slain in the retreat from Stamford Bridge, we should find in them abundant proof of the hasty burial of a large number of men, probably without fire.

The tumuli at Skipwith Common are of medium and not very unequal size, except that one which stands apart is much greater in diameter and somewhat superior in height to all the others. There are two groups of tumuli; on the west twelve of these mounds are conspicuous, the great tumulus, already mentioned, being on the south-east extremity. Besides these are nine small mounds, with oval or circular trenches. The greatest distance between any two adjoining is rather less than 700 feet. East of the great mound is a small group of three tumuli and several small heaps, besides two oval or nearly oval tumuli. In the first series the appearance of the fossæ, in which the

tumuli are set, is very distinct, and the even sharp aspect of the little oval round trenches remains. It was ascertained, by measure, that most of the tumuli are set in square fossæ, as if the angles were more depressed than the other parts; by the compass it was clear that they had been set out by the cardinal points, north and south, east and west. This was not the case with the oval tumuli. The same facts were observed in the eastern group. Between the two sets of tumuli is an elevated portion of dry, sandy ground, now covered with furze, across which an old trackway, to some depth, is traceable, passing down to the south side of the fossa of the great tumulus, and joins the road to Ricall. In the other direction it is marked by old tracks on the north of the smaller group of tumuli. Small single, double, and even treble banks and ditches pass away from the elevated ground; on the east of it is an irregular inclosure like a small field, but trenched and banked after an antique fashion, and enclosing at the north-east corner two oval ring trenches.

The tumuli on being opened shewed neither urn nor skeleton, nor arms of any kind; nothing, in fact, but the heaped up and discoloured sand, oak, charcoal, and some few calcined bones and a few chips of flint, such as in other cases have been regarded as arrow heads of the rudest kind. The oval or circular rings were slight trenches, the materials from which had slightly raised the interior; the central spaces were examined with little success. Merely shewing traces of fire towards the end, rather than in the middle, they suggested the notion of their being the bases of rude huts.

The observations made on Thorganby Common, near Skipwith, lead to exactly the same results. Similar tumuli, set in similar square fossæ, similar earth rings, oval and rectangular, but mostly square, occur on that Common. The tumuli, when opened, yielded carbonaceous matter, but no skeleton. On other parts of the Common, other earth rings appear far away from the tumuli.

On the evidence obtained from these tumuli and earth rings, there is no difficulty in deciding that the hills were not raised

over the bodies of Northumbrians, and are no part of the result of the fight at Stamford Bridge. The despair of the northmen and haste of the Englishmen would not allow them to wait to set out, by the cardinal points, square fossæ, within which to raise sepulchral mounds; and again, had such a host been buried in this manner traces far more distinct of interment than those found would have appeared. But on the assumption, that here was located an early British settlement on the outskirts of the Forest of Galtres, all is clear. The sandy hill is the stronghold—the dykes are lines of defence—the enclosure, with openings on its sides, becomes an ancient cattle enclosure; the oval rings on its margin are herdsmen's huts; the other rings are bases of dwellings; and the tumuli are the peaceful repositories of the peasants, among whose few bones neither weapons of war nor instruments of chase were wasted. That it was a British rather than Anglo-Saxon settlement may be decided from the fact that the latter people interred in large heaps rather than separate tumuli; and at Arras, amid the numerous British tumuli which exist at that place, is one with a similar square fossa, 45 feet by the side, and set nearly by the cardinal points.

*Read Nov., 1853.*

Whitby, 21 October, 1853.

DEAR SIRS,—I beg to forward to you, for the Yorkshire Philosophical Society, a drawing of a flint, found on Fylingdales Moor. It was obtained in the vicinity of several ancient British tumuli, and, as you are aware, it is only one of a number of uncommon flints in my possession from that and similar localities. A variety of opinions may be given as to its probable use: some deem it a comb, some a saw, others again think it may have been used for dividing the sinews of animals for bow-strings or thongs, and one gentleman supposes our primitive ancestors may have used it for the purpose of tattooing, and in this opinion, I am inclined to concur, although I have never seen anything in the ancient writers to warrant the belief that the insertion of colour beneath the epidermis was practised. Whatever use it may have been put to, I have but little doubt, from the enquiries made, that it is the first flint of the shape found in England, and I am satisfied that nothing of the kind has ever been seen by *some* of the most eminent Archæologists of the present day in this country.

I am, dear Sirs,

Yours truly and respectfully,

SAM<sup>L</sup>. ANDERSON.

To the Secretaries of the Yorkshire  
Philosophical Society.



*Notices of the York Mints and Coinages.*—By ROBERT DAVIES, F. S. A.

Whether the inhabitants of Britain possessed any metallic currency of their own mintage previously to the first Roman invasion, is a question which has not yet received a satisfactory solution. The British coins whose appropriation admits of no reasonable doubt, were fabricated in the first century of the Christian era, during the time that the Roman power was gradually becoming established in this country, and before it had attained complete ascendancy.<sup>1</sup> But none of the coins of this period present any specific indication of their having been struck in that part of Britain which formed the Brigantian territory.

After the Romans had obtained the undisputed dominion, they permitted no other money than their own to be circulated in the island. It is doubtful whether they established mints in any of the British towns. A few specimens of imperial coins have been found inscribed with certain letters which are supposed to denote that London was the place of their mintage; and “if Londinium, the chief commercial city in the province, had a mint, it is highly probable that Eburacum, distinguished by being the residence of the emperors when they visited

<sup>1</sup> It is to be lamented that the evidence of coins,—that evidence which has been well characterised as “so minute, so comprehensive, and so satisfactory,”—has shed but a feeble light upon this obscure page of our national annals. The only British coins which have been clearly and indisputably appropriated are those of Cunobelinus, the father of Caractacus, whose territories are said to have extended across the central part of the island from the coast of Norfolk to the river Severn. A recent ingenious interpretation of the inscriptions upon some of the coins of Cunobelinus has added one more to our scanty list of British kings, by giving us the name of Tasciovanus, his father. Some of these coins bear on the reverse the letters CAMV for Camulodunum, (Colchester,) the chief city of the Trinobantes, where, it is supposed, they were minted. The other coins of this period are inconsiderable in number, and the attribution of them is not free from ambiguity. Their inscriptions have led numismatists to assign some of them to the British prince, Comius or Commius, King of the Atrebatas, and others to his sons Epillus and Vericus or Bericus. Upon a very small number are inscribed letters which are supposed to indicate the name of Boadicea, the celebrated Queen of the Icenii.

Britain, would not be destitute of that privilege."<sup>1</sup> But no evidence of the existence of a Roman mint at York has hitherto been discovered: and it is a remarkable circumstance that among the coins of the emperors who lived and died at York, none, even of those bearing legends which specially relate to Britain, have any inscription or device from which it can be inferred that they were struck at Eburacum, or at any other place within the province.<sup>2</sup>

### THE SAXON ÆRA.

A few specimens are extant of the silver coin called the Sceatta,<sup>3</sup> which are supposed to have been current during the period that elapsed between the final departure of the Romans from this country, and the establishment of the Saxon power, but the execution of them is so rude that the most skilful numismatists have failed in their attempts to explain their types or interpret their imperfect inscriptions. It is even doubted whether they were struck in this country or brought here by our Saxon invaders.<sup>4</sup>

After the formation of the Heptarchy, the appropriation of the Anglo-Saxon coins is attended with less difficulty; each kingdom having its own currency, and each coin being distinguished by the name of the sovereign under whose authority it was issued.

Northumbria, of which the city of York was the metropolis, was the only kingdom of the Heptarchy which possessed both a silver and a copper coinage.

The silver coins of Northumbria were the sceatta and the penny, and of these but an inconsiderable number of types has

<sup>1</sup> Eburacum, by the Rev. C. Wellbeloved, p. 141.

<sup>2</sup> That counterfeit Roman money was fabricated in Britain is shown by the numerous clay-molds used by forgers, which have been discovered at Lingwell-gate near Wakefield, at Castor in Northamptonshire, and other places.

<sup>3</sup> The term Sceatta is purely Saxon, and occurs in the sense of money or payment in general. Ruding's *Annals of the Coinage*. Vol. I. p. 108.

<sup>4</sup> The Silver coins of England, arranged and described, by Edward Hawkins, Esq., p. 17.

hitherto been discovered. The earliest<sup>1</sup> sceatta at present known, of which only a single example is extant, has been assigned by numismatists, after some hesitation, to Aldfrid, who held the sceptre of Northumbria at the close of the seventh and the beginning of the eighth century.<sup>2</sup> A series of coins, at first attributed to Ecgberht son of Offa, king of Kent in 796, has been recently transferred by numismatists to Eadberht, who reigned in Northumbria from the year 738 to the year 789. Some of this series have on one side the rude representation of a four-footed animal, and on the other the name of the sovereign.<sup>3</sup> A few others are impressed on the reverse with the figure of a person holding two crosses, and a legend which is read ECGBERHT AR; and these are supposed to have been struck by the joint authority of Eadberht and his brother Archbishop Ecgberht, who was the sixth successor of Paulinus in the see of York. A single sceatta previously regarded as belonging to Ecgberht, king of Kent, is now assigned to Alchred, who was king of Northumbria from 765 to 774. Three are extant which are supposed to have been struck by Elfwald, king of Northumbria from 778 to 789. A small number of silver pennies are described which are attributed to the Northumbrian kings Regnald, Anlaf or Onlaf, and Eric, who are said to have resided in York during the first half of the tenth century, and who were most probably feudatories of Æthelstan.<sup>4</sup>

The ecclesiastical coins of the size and form of pennies, which are usually denominated Peter Pence from an incorrect supposition that they were struck for the purpose of paying to Rome the tribute which bore that name, are said to be contemporary with Eric, who was dethroned in the year 951.

<sup>1</sup> A sceatta of silver struck by Æthilbert, king of Kent, whose reign extended from the year 568 to the year 615, is the earliest identified Anglo-Saxon coin hitherto discovered. Hawkins, p. 18.

<sup>2</sup> The name of Aldfrid is held in remembrance in Yorkshire, from the circumstance of his having died and probably been buried at Driffeld.

<sup>3</sup> A specimen of this type is in the cabinet of the Yorkshire Philosophical Society, presented by the late Dr. Goldie.

<sup>4</sup> Hawkins, pp. 38, 39, 45, 47. Upon some of the coins of Anlaf he is styled Cununc, upon others Rex.

They exhibit on one side the inscription SANCTI PETRI MONETA; and on the other, the word EBORACI, or some abbreviation of it, from which it is inferred that the city of York was the place of their mintage.

Such was the slender stock of our knowledge of the silver coinage of Northumbria, when in the year 1840 an antient hoard of treasure was accidentally found at Cuerdale, near Preston in Lancashire, which included about 7000 silver coins of various descriptions. Among them was a series of nearly 3000 specimens, which Mr. Hawkins, the eminent numismatist to whom they were in the first instance submitted for examination, classed with the uncertain or unintelligible coins, regarding their types and legends as incapable of any perfectly satisfactory interpretation.<sup>1</sup> A considerable number of these were inscribed with the words EBRAICE CIVITAS, which, Mr. Hawkins thought, most probably denoted that Evreux, a city in Normandy, was the place of their mintage. On the other hand, Mr. D. H. Haigh and M. Adrien de Longperier, who are high authority, have expressed a decided opinion that by these words the city of York was certainly intended.<sup>2</sup> If the latter be the true interpretation, we are entitled to add to the list of the silver coins of Northumbria, between 600 and 700 specimens, having on the obverse of the greater proportion of them letters arranged in a peculiar manner which are supposed to represent CNVT REX; on the obverse of others, the inscription SIEFREDVS REX; and of the rest, the legend MIRABILIA FECIT; and all of them having on the reverse the words EBRAICE CIVITAS, either in full, or variously abbreviated or blundered. According to Mr. Haigh, these coins were struck at York at the end of the ninth or beginning of the tenth century, and Cnut and Siefred, by whose authority they were coined, were Danish princes who

<sup>1</sup> An Account of Coins and Treasure found in Cuerdale, by Edward Hawkins, Esq., p. 67.

<sup>2</sup> See Papers by D. H. Haigh, Esq., author of an Essay on the numismatic history of the antient kingdom of the East Angles; and M. Adrien de Longperier, keeper of the Cabinet of Medals at Paris. Numism. Chron., Vol. V. pp. 114, 117.

successfully invaded Northumbria, and seated themselves at York, towards the close of the life of Alfred the Great.<sup>1</sup> Mr. Worsaae, in his recent work, *The Danes in England*, maintains the same opinion as to the York parentage of these coins. He thinks "they were really minted by Scandinavian kings in Northumberland, and in the city of York."<sup>2</sup>

It is still, however, open to doubt whether we have yet arrived at the true origin of the disputed portion of the Cuerdale coins; but if the legend *Ebraice Civitas* have no reference to the city of York, we must regard it as a very remarkable circumstance that not a single coin of unquestionable authenticity, struck by a king of Northumbria or an archbishop of York, should have been found in the whole of the vast hoard of silver money discovered at Cuerdale.<sup>3</sup>

The only copper money current in Northumbria was the small coin called the *Styca*,<sup>4</sup> which was peculiar to the Northumbrian coinage. Neither this, nor any other denomination of copper money,<sup>5</sup> is known to have been struck in any of the other kingdoms of the Heptarchy.

The specimens of this interesting coin known to our earlier

<sup>1</sup> M. Longperier supposes that this Cnut was a son of Ragnar Lodbrog, and he refers to the following passage in one of the Sagas: "Eboracum ubi sedem olim habuisse feruntur Lodbrokii filii."

<sup>2</sup> *An Account of the Danes and Norwegians in England, Scotland and Ireland*, by J. J. A. Worsaae, For. F. S. A. London, p. 51.

<sup>3</sup> Mr. Hawkins, whose opinion commands the highest respect, adheres to his original views as to the history of the uncertain portion of the Cuerdale coins. Many of them, he observes, in some respects resemble French coins, in other respects English coins, and he inclines to believe that they never formed part of the legitimate currency of either country, but were struck by order of the Danish adventurers who visited both countries, remaining a longer or shorter time in each as they were able or as suited their purpose, and who struck coins to supply their immediate wants, imitating the coins of either country according to their fancy, but not copying the originals with accuracy.

<sup>4</sup> No better derivation of the word *Styca* has been suggested, than that of *Lyc*. A. S. STICCE. *Minuta pars*. Ruding says it seems to be the same coin that is termed in Domesday Book, *minuta*, from whence our word *mite*. *Annals of the Coinage*, Vol. I. p. 111.

<sup>5</sup> With the copper of which the *Styca* is chiefly composed, a proportion of tin, zinc, or silver, and sometimes a small quantity of gold or lead, is occasionally found.

numismatists were comparatively few in number, but our knowledge of its various types has been greatly extended since the commencement of the present century by the disinterment of large hoards which had been concealed by our Saxon ancestors in several places within the limits of the antient kingdom of Northumbria.<sup>1</sup>

Formerly, no stycas were known to collectors, of more antient date than those of Eanred, whose reign as king of Northumbria commenced in the early part of the ninth century.<sup>2</sup> We now possess some specimens of a considerably earlier period. In the year 1813, a small number were found in the chapel yard of Heworth<sup>3</sup> in the county of Durham, inscribed with the name of Ecgfrith,<sup>4</sup> who reigned in Northumbria from the year 670 to the year 685: and one solitary example is known of the stycas coined by his immediate successor, Aldfrid.<sup>5</sup>

After the death of Aldfrid in the year 705, a long chasm occurs in the history of the Styca. Of about fourteen successive monarchs of Northumbria, whose reigns occupied nearly the whole of the eighth century, (705—794), not a single coin of that denomination has hitherto being brought to light. But of the coins of the following century, the recent finds have

<sup>1</sup> The Saxo-Northumbrian territory, it is supposed, included all that part of Britain which lies between the Tweed and the Southern borders of the present counties of York and Lancaster.

<sup>2</sup> Several Stycas of Eanred, Ethelred, and Osbercht were found in the year 1695 on Elshaw or Ailcey Hill, a large tumulus not far from the cathedral of Ripon, specimens of which were in Thoresby's collection. *Duc. Leod.* p. 343. Some of Eanred and Ethelred have been discovered recently near the same spot. *Archæolog. Journal*, Vol. III. p. 73.

<sup>3</sup> Heworth is in the parish of Jarrow (near Gateshead), the church of which was founded by Ecgfrid, A.D. 685. *Surtees's Durham*, Vol. II. p. 67.

<sup>4</sup> Obv. † ECGFRITH REX. Rev. An irradiated cross with the word LVX, which "clearly enough points out the glorious light which the religion of the cross is calculated to throw upon the world." See an account of a Saxon coin of Ecgfrith king of Northumberland, by the Rev. John Hodgson. *Archæologia Æliana*, Vol. I. p. 125. Mr. Surtees doubts both the device and the legend of the reverse. *History of Durham*, II. 83. This is the oldest known coin of the kingdom of Northumbria. *Hawkins*, p. 38.

<sup>5</sup> Obv. † ALFRIDUS. Rev. A rude representation of a four footed animal, but no letters. *Ibid.*

afforded a surprising number of examples and varieties of type, all possessing a general character of similarity in having one side impressed with the name of the sovereign or prelate by whose authority they were struck, and the other with that of the person who held the office of his moneyer or mint master.

A hoard of between five and six hundred coins, which was turned up by the plough at Kirk Oswald in Cumberland, in the year 1808, contained the stycas of Eanred, Ethelred, Redulf, and Osbercht, whose reigns extended from the year 808 to the year 867, and among them were some coined by the archbishops of York, Eanbald, Vigmund, and Vulphere, who were contemporaries of those four kings.<sup>1</sup>

The great hoard of about 8000, which was disinterred, from the church-yard of Hexham in the year 1833, first made us acquainted with the stycas of Heardulf (794—806), the immediate predecessor of Eanred; but with this exception the Hexham hoard was composed exclusively of the coins of the three monarchs, Eanred, Ethelred, and Redulf, and of the two archbishops, Eanbald and Vigmund.<sup>2</sup>

In the two large hoards since disinterred, viz., that from the Mint-yard in the city of York in the year 1842, comprising many thousand coins, and that from a field near Bolton Percy, about nine miles distant from York, a few years later, no new names of either kings or prelates are presented by the numerous

<sup>1</sup> Mr. Ruding (Vol. I. p. 111) gives the following particulars of the Kirk Oswald find:—

| <i>Kings.</i>       | <i>No. of Stycas.</i> |
|---------------------|-----------------------|
| Eanred .....        | 99                    |
| Ethelred .....      | 350                   |
| Redulf .....        | 14                    |
| Osbercht .....      | 15                    |
| <i>Archbishops.</i> |                       |
| Eanbald .....       | 1                     |
| Vigmund .....       | 58                    |
| Vulphere .....      | 5                     |
|                     | 542                   |

Previously to this discovery, the archiepiscopal coins were scarcely known.

<sup>2</sup> See Mr. Adamson's account of the Hexham find, *Archæologia*, Vol. 25. p. 279.

examples hitherto examined. All the royal stycas in the York hoard belong to the consecutive reigns of Eanred, Ethelred, Redulf and Osbercht, and the ecclesiastical coins are those of the archbishops Vigmund and Vulphere, with a very small number of Eanbald. The great bulk of the Bolton Percy find consisted of the coins of the same four monarchs, and of the archbishops Vigmund and Vulphere, there not being one of Eanbald. But among the Bolton Percy coins were two of the rare stycas of Ecgfrid,<sup>1</sup> and a few doubtful ones supposed to belong to Heardulf.<sup>2</sup>

The history of the Styca ends with the reign of Osbercht, none of any subsequent monarch having hitherto appeared. Of Ælla, who shared the Northumbrian throne with Osbercht during the latter years of his reign, no well authenticated coin is known to exist. It is conjectured that both the York and the Bolton Percy hoards were concealed at the same time, "about the year 867, when the armies of the Danes came from East Anglia into Northumbria, besieged York and having taken the city slew the two Kings Osbercht and Ælla and laid waste the neighbourhood."<sup>3</sup>

We may now pause to inquire in what part of their territories the Northumbrian monarchs carried on the process of coining the money they issued in such abundance. Upon this point we

<sup>1</sup> 1. Obv. † ECFRAIDE. Rev. † EADVINI.

2. Obv. † ECFRAIDE. Rev. † VVDA. . EO.

<sup>2</sup> Of the York hoard, 365 specimens were examined by Mr. Roach Smith, 866 by Mr. D. H. Haigh, and 2258 by the late Mr. J. D. Cuff. See Numismatic Chronicle, Vol. VII. p. 99, and Vol. IX. p. 121. For a report, by the learned and venerable curator of antiquities in the Museum of the Yorkshire Philosophical Society, of his examination of more than 600 coins from the Bolton Percy hoard, see the Transactions of the Society, Vol. I. p. 66. The whole number of coins contained in this hoard was estimated to amount to between seven and eight thousand, more than three thousand of which were obtained by the Yorkshire Philosophical Society. The Society is now in possession of about five thousand stycas formed from the two great hoards of York and Bolton Percy, of which Mr. Wellbeloved has just completed an accurate and minutely descriptive catalogue.

<sup>3</sup> Mr. Wellbeloved's paper, p. 67. Mr. C. R. Smith, Num. Chron., Vol. VII. p. 101. Mr. Adamson suggests that the Hexham coins were concealed at the same period, but Mr. Hawkins thinks it more probable that they were not buried later than the year 844. Hawkins, p. 44.



possess no decisive evidence.<sup>1</sup> Documents relating to the Anglo-Saxon mints or coinage are not known of earlier date than the reign of Æthelstan, nor (unless the disputed legend of the Cuerdale types refer to York) do the coins themselves afford any information as to the place of their mintage prior to that reign. But we can have little difficulty in arriving at the conclusion that the mint of the kings of Northumbria was at York—Eoferwic—their metropolis and principal residence, and the seat, most probably of the civil, as it was undoubtedly of the ecclesiastical government. At York, the prelates to whom was given the power of coining, must necessarily have exercised that important privilege. York was certainly a place of mintage soon after the commencement of the tenth century; and in no other town within the whole extent of the antient kingdom of Northumbria have we any record that money was coined from the commencement to the close of the Anglo-Saxon æra. From these facts we may fairly infer that the royal as well as the archiepiscopal mint was placed at York from the earliest period of the Saxo-Northumbrian annals.

In the reign of Æthelstan, who succeeded his father Eadweard the Elder the son of Ælfred the Great in the year 925, the fact of a royal mint having existed at York, is established by the clear and indisputable testimony of the coins that issued from it. By Æthelstan's conquests, the kingdom of Northumbria was deprived of her independence. He was the first Anglo-Saxon monarch who placed upon his coins the inscription, *Rex totius Britannicæ*,<sup>2</sup> although he was somewhat premature in assuming that title. He ordained that one kind of money

<sup>1</sup> Mr. Drake states, (Eboracum, Appendix p. eiv.) that under the Saxon government in Britain, we have undoubted testimony of a mint at York, both in their Heptarchical division of this kingdom, and under their universal monarchy. The "undoubted testimony" upon which our historian relies to prove that there was a mint at York during the Heptarchy, is a single coin which he describes to be "an unic of very great rarity and worth, being the antientest coin of the Saxon money known to connoisseurs in this way." But the coin so much prized in Mr. Drake's time is now ascertained to be a silver penny of Edward the Confessor, struck at York, of a well known and not uncommon type.

<sup>2</sup> Ruding, Vol. I. p. 127. Hawkins, p. 61.

only should be current throughout his dominions, and thus took from the ecclesiastics the privilege they had previously enjoyed of impressing their names and effigies upon the coins struck in their own mints. In his reign the practice was almost universally adopted of adding to the name of the moneyer upon the reverse of the coin, that of the place where it was minted.<sup>1</sup> Hence we know that the city of York was one of the numerous places in which he continued or established mints.

Of Æthelstan and his Anglo-Saxon and Danish successors upon the throne of England, with a few exceptions, silver coins are extant which were struck at the York mint; and I proceed to give a brief account of them, under each reign.

#### ÆTHELSTAN. 925 to 941.

The number of the mints of Æthelstan<sup>2</sup> is about twenty, among which York appears under various forms and abbreviations of its Anglo-Saxon name, Eoferwic.

The following are the legends on coins of Æthelstan struck at York:—

1. Obv. ÆTHELSTAN REX TO BRIT  
Rev. REGNOLD MO EFORWIC
2. Obv. ÆTHELSTAN REX  
Rev. ARNALF MO EO
3. Obv. ÆDELSTAN REX  
Rev. LBERTEE MO EO

<sup>1</sup> Some of the pennies of Egbeorht, king of the West Saxons, (800—837) and of Ethelwolf his successor, have a monogram which is supposed to indicate that Canterbury was the locality of their mint. Hawkins, p. 59. It was not until the reign of Ælfred (872—901), that the Saxon moneyers adopted to any extent the practice of appending to their own names that of the place where the coins were struck. Upon the coins of Ælfred, the names of London, Canterbury, Oxford, Winchester, and Lincoln, appear as places of mintage. The Cuedale coins added the two last names to those previously known.

<sup>2</sup> All the coins of Æthelstan are pennies of silver, weighing from 22 to 24 grains, occasionally exceeding or falling short of those weights. The only known Anglo-Saxon halfpennies of silver are two or three of the mintage of Edward the elder, the father of Æthelstan, upon whose coins no mint is mentioned. Ruding, Vol. I. p. 126. Hawkins, p. 59. Num. Pro. 1837, p. 96.

4. Obv. ÆDELSTAN REX  
 Rev. REGNALD MO EBORAC A'C
5. Obv. ETHELSTAN REX  
 Rev. ROTBERT MO EO

Of No. 1, the Yorkshire Philosophical Society possesses two specimens. Three others are described by Ruding,<sup>1</sup> and one by Hawkins.<sup>2</sup> A specimen apparently of this type was found at Lough Lyn, Westmeath, in May, 1843.<sup>3</sup>

Nos. 2, 3, and 4, are described by Ruding.<sup>4</sup> The reverse of No. 4 has a device above the moneyer's name, which is probably a rude attempt at a representation of York Cathedral. Perhaps, this is an archiepiscopal coin. It is a solitary example of the use of the latin form of the name of the mint. No. 5 is engraved by Hawkins.<sup>5</sup>

Mr. Ruding<sup>6</sup> gives a general list of more than 100 varieties of the names of Æthelstan's moneyers, but it is to be regretted that, having omitted to mention the towns in which each moneyer's name occurs, he has not afforded the means of distinguishing the moneyers of the respective mints either in this or any subsequent reign.<sup>7</sup>

#### EADMUND. 941 to 946.

York is named by Ruding as one of the very few of this monarch's mints which have hitherto been discovered.<sup>8</sup> The names of his moneyers are numerous. Not a single York coin of his mintage is described.<sup>9</sup>

#### EADRED. 946 to 955.

Norwich is the only ascertained mint of this monarch.

#### EADWIG. 955 to 959.

Ten of his mints are known, of which York is one, but the

<sup>1</sup> Vol. II. p. 289.

<sup>2</sup> Pl. 14. No. 187.

<sup>3</sup> Num. Chron., Vol. VI. p. 216.

<sup>4</sup> Vol. II. p. 289.

<sup>5</sup> Pl. 14. No. 185.

<sup>6</sup> Vol. I. p. 128.

<sup>7</sup> Hawkins, p. 71.

<sup>8</sup> Ruding, Vol. I. p. 128.

<sup>9</sup> The British Museum does not possess a specimen.

name of the place of mintage rarely appears upon his coins. More than thirty varieties of moneyers' names occur. Two specimens of the York mint are described by Ruding.<sup>1</sup>

1. Obv. EADVIGE REX  
Rev. DEONVLF MON EO
2. Obv. EADVIG REX  
Rev. DONVLF MO ON EO

EADGAR. 958 to 975.

All the kingdoms of the Heptarchy being really and permanently united under this monarch, he was the first who assumed, upon his coins, the title of *Rex Anglorum*. Between seventy and eighty of his mints are known, and the names of his moneyers are more numerous than those of any of his predecessors. The British Museum possesses two specimens of his coins struck at York :—

1. Obv. EADGAR REX ANGLOR  
Rev. DVN M-O EOFORWIC
2. Obv. EADGAR REX ANGL  
Rev. FASTOLF M-O EFER

The following, which formed part of a hoard found at Derry Keeran in 1843,<sup>2</sup> appear to be of the York mint :—

1. Obv. EADEAR REX  
Rev. DVRIOL EO MON
2. Obv. EADGAR REX T  
Rev. EOFER ARP MOT

EADWEARD II. OR THE MARTYR. 975 to 978.

His mints and moneyers are numerous. Of the coins struck at York a single specimen is in the British Museum :<sup>3</sup>

- Obv. EADWEARD REX A  
Rev. DVN M-O EOFORWIC

One other specimen of the same type is described in the

<sup>1</sup> Ruding, Vol. II. p. 291.

<sup>2</sup> Numism. Chron., Vol. VI. p. 213.

<sup>3</sup> Described by Ruding, Vol. II. p. 291.

*Monnaies Anglo-saxonnes du Cabinet Royal de Stockholm toutes trouvées en Suède*, of M. Hildebrand :<sup>1</sup>

Obv. EADWEARD REX A

Rev. SVRCLOS M-O EFER

ÆTHELRED II. 978 to 1016.

From the excellent work of M. Hildebrand, above referred to, we derive more abundant and exact information respecting the coins which issued from the York mint during this and the following reigns, than from any other source. The volume contains a minutely descriptive catalogue of the Anglo-Saxon coins in the royal collection at Stockholm, which have been discovered from time to time in Sweden, chiefly in the Eastern provinces and upon the islands of Gothland and Oland. The series extends from Eadgar to Edward the Confessor, and comprises 4232 coins, of which more than one-tenth part were struck at York.<sup>2</sup> The coins of Æthelred II., Cnut, Harold I., and Harthacnut, are much more numerous in Sweden than in England, and it is obvious, M. Hildebrand observes, that they were transmitted from this country directly to Denmark,

<sup>1</sup> Published at Stockholm in 1846. The author is "Directeur du Cabinet Royal des Medailles et des Antiquités en Suède."

<sup>2</sup> The following table shows the total numbers of the coins of each reign, described in M. Hildebrand's catalogue, and the specific numbers of those struck at York and four other principal mints:—

|                 | Total. | York. | London. | Lincoln. | Winchester. | Exeter. |
|-----------------|--------|-------|---------|----------|-------------|---------|
| Eadgar.....     | 30     | —     | 1       | 1        | 5           | —       |
| Eadweard II. .. | 11     | 1     | 1       | 1        | 2           | 1       |
| Æthelred II. .. | 2254   | 193   | 509     | 195      | 181         | 109     |
| Cnut .....      | 1396   | 181   | 379     | 140      | 65          | 20      |
| Harold I. ....  | 237    | 28    | 55      | 28       | 11          | 3       |
| Harthacnut....  | 31     | —     | 4       | 1        | 1           | 2       |
| Edward Conf. .. | 273    | 34    | 57      | 42       | 12          | 5       |
|                 | 4232   | 437   | 1006    | 408      | 277         | 140     |

Whilst the catalogue was passing through the press, the Stockholm collection was increased by 380 Anglo-Saxon coins, and further additions have since been made.

and were afterwards distributed by commerce upon the Swedish shores and islands of the Baltic.<sup>1</sup>

The Stockholm collection furnishes the names of seventy-two places in England where money was coined in the reign of Æthelred, adding more than twenty names to those previously known.<sup>2</sup> The number of variations of the names of moneyers

<sup>1</sup> I quote at length the passage in which the author states his view of the well-known historical events that occasioned so large an amount of English money to pass into the kingdoms of the antient Scandinavia: — “Les plus anciennes monnaies Anglo Saxonnes découvertes en Suède sont du Roi Eadgar, peu nombreuses, elles appartiennent aux dernières années de son règne. Elles remontent à ce temps où les Danois et d’autres peuples du Nord convertèrent leurs pirateries de détail en dévastations presque continuelles et en guerre réglée pour faire la conquête du pays. Sous le règne d’Æthelræd II. ces dévastations parvinrent à leur comble, et le malheureux roi, pour sauver son pays, consentit en 994 à payer aux Danois un tribut qui, prélevé plusieurs fois, montait à 167,000 livres d’argent et recevait le nom de Danegald. L’ennemie se reservait en outre après chaque traité de paix l’entretien aussi longtemps qu’il restait dans le pays, et ordinairement il ne le quittait que pour en aller piller une autre province. Une proie facile attirait sans cesse de nouveaux aventuriers. Le roi faisant de vains efforts pour se débarrasser de ces hôtes pénibles, avait toujours grand besoin d’argent pour ses armées, pour sa cour, et pour payer les tributs; aussi le privilège de battre monnaie, droit royal important, dut-il être souvent loué. Voilà pourquoi les monnoies de ce roi sont si nombreuses. Enfin Sven, Roi de Danemark, détrôna Æthelræd (1013), qui ne fut retabli comme roi que peu de temps avant sa mort (1016). Alors le roi Danois Canut, fils de Sven, poursuivant les conquêtes de son père, monta sur le trône d’Angleterre. Cependant de grandes sommes furent encore exigées pour les armées et l’escadre Danoises. Canut (mort en 1035) eut pour successeurs ses fils Harold I. et Harthacanut. Le Danemark et les armées continuèrent à épuiser l’Angleterre, ce qui explique pourquoi aussi les monnaies Anglaises de ces rois se retrouvent beaucoup plus souvent en Danemark et en Suède qu’en Angleterre. Après la mort d’Harthacanut, Edouard le Confesseur, de la race indigène, remonta sur le trône de ces ancêtres. Peu à peu les Danois furent chassés et l’on dit que le Danegald fut définitivement abrogé en 1049. Aussi les monnaies de ce dernier roi sont-elles moins nombreuses dans les Musées de Danemark et de Suède qu’en Angleterre, et celles trouvées en Suède portent à peu d’exceptions près, des types qui ne paraissent appartenir qu’aux premières années de son règne. Les monnaies Anglosaxonnes ont ainsi été apportées d’Angleterre par des guerriers Danois, parmi lesquels se trouvaient des Suédois, ainsi que le témoignent nos pierres runiques et les chroniqueurs Anglais. Elles prirent cours en Scandinavie avec les monnaies allemandes, comme nous l’avons déjà observé, et furent répandues par le commerce sur les côtes de la Baltique. Telles est donc la raison pour laquelle les monnaies Anglosaxonnes de ces temps sont plus nombreuses en Suède que dans leur propre patrie.” p. cxi.

<sup>2</sup> The number of Æthelred’s mints was about 50 according to Ruding, and of variations of moneyers’ names about 250. Ruding, Vol. I. p. 134. Hawkins, p. 68.

in M. Hildebrand's list is five hundred and eighty, including the following which appear upon coins struck at York.

|                       |                     |                       |                        |
|-----------------------|---------------------|-----------------------|------------------------|
| Ælfstan*              | Eadnoth*            | Oda*                  | Svmrlethi              |
| <sup>o</sup> Arneytel | Eadric*             | Odcotel               | Svnolf*                |
| <sup>o</sup> Arnthor  | Eadstan             | Odda                  | Swertcar               |
| Arnthorr              | Eatstan             | Oddas                 | <sup>o</sup> Swertgar* |
| Arnthvr               | <sup>o</sup> Eilaf* | Odv                   | Thorolf                |
| Arthor                | Elfstan             | Oscet                 | <sup>o</sup> Thorstan  |
| Arthvr                | Farman*             | <sup>o</sup> Oscetel* | <sup>o</sup> Thorvlf   |
| Ascclt                | Frostvlf            | Oscetl                | Thvrstan*              |
| <sup>o</sup> Aschetel | Frostvlf            | Osgod                 | Thorvlf*               |
| Ascytel               | Gola                | Osgot                 | Vlf                    |
| Aseetel               | Harncytel           | Osof*                 | <sup>o</sup> Vlfcetel* |
| Berhwne               | Hildolf             | Osvlf*                | Vlfcetl                |
| Brethnoth             | Hildvlf             | <sup>o</sup> Othgrim* | Vlfcitel               |
| Brehtwine             | Hvndvlf*            | Othvlf                | Vlfcytel               |
| Brehtwne              | Ira                 | Ovthgrim*             | Wengos*                |
| Brihtwine             | Irra                | Ovthrim               | <sup>o</sup> Wintrleda |
| <sup>o</sup> Cetel    | Lefstan             | Steorcer              | Wvlfsize*              |
| Citelbe               | Lefwine             | <sup>o</sup> Stirceir | Wvlfstan*              |
| Cola                  | Leofstan*           | Stircol               | Wvlsige                |
| <sup>o</sup> Colgrim* | Leofstin            | Svmerlida             | Wynegos                |
| Dahfin                | Leofwine*           | Svmerletha            |                        |
| Dahfinx               | Leofwne             | Svmerlida             |                        |
| Dvran                 | Oban                | <sup>o</sup> Svmrleda |                        |

The specimens of the York coins of Æthelred, which are now in the national collection at the British Museum, are numerous, and from them we obtain the following additions<sup>1</sup> to the names of York moneyers:—

|                       |          |          |                    |
|-----------------------|----------|----------|--------------------|
| <sup>o</sup> Earngrim | Frithcol | Grimvlf  | <sup>o</sup> Othin |
| Eelwine               | Ftstolf* | Leofric* | Tvmme              |
| Estel                 | Goldwine | Leoric   | Wvlnoth            |
| Fastvlf*              |          |          |                    |

\* This mark denotes that the same names are contained in Ruding's general list of Æthelred's moneyers. Rud., Vol. I. p. 135.

<sup>1</sup> Eight of these additional names were derived from a hoard of coins found at Widmore in Kent in the summer of 1853.

The Yorkshire Philosophical Society possesses two specimens of the York pennies of Æthelred :—

1. Obv. ÆTHELRED REX A  
Rev. THYBVL<sup>1</sup> M O EVFR
2. Obv. ÆTHELRED REX ANGLO  
Rev. OBAN<sup>2</sup> O EOFR

Two other specimens are described by Ruding.<sup>3</sup>

1. Obv. ÆTHELRED REX ANGLORVM  
Rev. TVMME M O EFERWIC. Device, a hand from heaven between A and W
2. Obv. ÆTHELRAED REX ANGL  
Rev. SVMERLIDA M O EOFR

From the York coins in the Stockholm cabinet I select the following specimens, of different types :—

1. Obv. EDELRED REX ANGLO  
Rev. BREHTNOTH M-O EOF
2. Obv. ÆTHELRED REX ANGLO  
Rev. COLGRIM M-O EOF. Device same as Ruding, No. 2.
3. Obv. ETHELRED REX ANGLOR  
Rev. ARNCYTEL M-O EOF. CRVX in the angles.
4. Obv. ÆTHELRAED REX ANGLO  
Rev. FROSTVLF M-O EOFR
5. Obv. ÆTHELRAED REX ANGL  
Rev. IRRA M-O EOFR

The museum of M. Keder, a Swedish antiquary of the early part of the last century, contained 126 coins of Æthelred, and among them were five struck at York, but we obtain from them only one addition to the names of the York moneyers of this king :<sup>4</sup>

- Obv. ÆTHELRAED REX ANGLOR  
Rev. FORNA MO EOFR

<sup>1</sup> The name of Thybul does not appear in the list of either Ruding or Hildebrand, nor among the specimens in the British Museum.

<sup>2</sup> Seven specimens of the coins of this moneyer are in the Stockholm collection, but his name does not occur in Ruding's lists.

<sup>3</sup> Vol. II. pp. 292, 302.

<sup>4</sup> Catalogus Nummorum ex argento Anglo-Saxonicorum et Anglo-Danicorum in Museo Nicolai Kederi. Lipsiæ, 1708.



## Cnut. 1016 to 1035.

The coins of Cnut are extant in great abundance. The number of his mints exceeded seventy,<sup>1</sup> and the varieties of moneyers' names afforded by M. Hildebrand's catalogue alone amount to five hundred and thirty five, of which the following are upon coins struck at York :—

|                        |                       |                       |                         |
|------------------------|-----------------------|-----------------------|-------------------------|
| Ælwine                 | Colgrrim              | Ire *                 | Strcol *                |
| Ægelwine *             | Crvcan *              | Lefwine               | Styrcol *               |
| Æthelwine *            | <sup>D</sup> Earngrim | Lefvine               | Svinolf                 |
| <sup>D</sup> Arncetel  | Elfstan               | Osborn                | Svnolf *                |
| Arncetl *              | Ethelwine *           | Oscot                 | Svnvlf                  |
| Asferth                | Færthein *            | Osgod *               | Svrtinc *               |
| Asgovt *               | Fargrim *             | Osgot *               | <sup>D</sup> Swan *     |
| Asgvt                  | Fargrm                | Osoot                 | Swann                   |
| Asgvvt *               | Farthein *            | <sup>D</sup> Othin *  | Swertinc                |
| <sup>D</sup> Beorn *   | Farthin *             | Oththin *             | <sup>D</sup> Thvrgrim * |
| Beornn                 | Frithcol *            | <sup>D</sup> Ovstman  | Tooca *                 |
| Birehtno               | Gimvlf *              | <sup>D</sup> Ovthgrim | Vcede                   |
| Birhtnoth              | Godman *              | <sup>D</sup> Ræfen *  | Vcedee                  |
| Brehnoth               | Grimolf *             | <sup>D</sup> Sevlaa   | Vlfggrim                |
| Brehtnoth              | Grimvlf *             | Selecol               | <sup>D</sup> Vstman     |
| Bretecol               | Grcvan *              | Sertinc               | Withrin *               |
| Bretetcol              | Hildolf *             | Snecol                | Withrine *              |
| <sup>D</sup> Cetel *   | Hildolf               | Stirc                 | Wvlfnoth *              |
| Cogrim *               | Hildred *             | <sup>D</sup> Stircer  | Wvlnoth                 |
| <sup>D</sup> Colgrim * | Hildvlf *             | Stircol *             | Wvlstan *               |

The 366 York pennies of Cnut found in a hoard of treasure which was disinterred at Halton Moor near Lancaster in the year 1815,<sup>2</sup> give us the following additional names of York moneyers :—

<sup>1</sup> Mr. Ruding observes, (Vol. I. p. 137,) that "Cnut's mints in England were more numerous than those of any other of her monarchs," and hence he infers that a considerable influx of wealth took place during his reign. We learn from Hildebrand's catalogue that the mints of Æthelstan were equal in number to those of his successor.

\* This mark denotes that Ruding's general list contains the same names. *Annals*, Vol. I. p. 109.

<sup>2</sup> See *An Account of some Saxon Antiquities found near Lancaster*, By Taylor Combe, Esq. *Archæologia*, Vol. XVIII. p. 192.

|        |        |        |        |
|--------|--------|--------|--------|
| Arnolf | Griman | Sticol | Withan |
| Asgod  | Gvrn   | Toca   | Withen |

The cabinet of the Yorkshire Philosophical Society contains two specimens of the York coins of Cnut :—

1. Obv. CNUT REX AN  
Rev. WVLNOTH M-O EOFR
2. Obv. CNVT REX AN  
Rev. FRITHCOL M O EOFR

From the specimens described in M. Hildebrand's catalogue <sup>1</sup> I select the following varieties :—

1. Obv. CNVT REX AN  
Rev. ASGOVT M-O EOFR
2. Obv. CNVT REX ANG  
Rev. HILDOLF M-O EOF
3. Obv. CNVT REX ANGLO  
Rev. OSOOT M O EOFRWI
4. Obv. CNVT REX ANGLOR  
Rev. SWERTINC O EO
5. Obv. CNVT RECX A  
Rev. OSGOD ON EOFR
6. Obv. CNVT REX ANGLORUM  
Rev. ASFERTH M-O EO
7. Obv. CNVT REX ANG  
Rev. CETEL M-O EOFRWIC
8. Obv. CNVT RECX  
Rev. RÆFEN ON EOFRWI

#### HAROLD I. 1035 to 1040.

Ruding's list of nineteen of the mints of this monarch is increased to forty-four by Hildebrand, whose catalogue contains the following varieties of the names of his York moneyers, only two of which are given by Ruding :—

|                     |        |         |                      |
|---------------------|--------|---------|----------------------|
| Ægelwine            | Arcill | Beornn  | Ergrim               |
| <sup>p</sup> Arncil | Beorn  | Dvracan | <sup>p</sup> Erngrim |

<sup>1</sup> Three specimens of the York coins of Cnut are described by Ruding, Vol. II. p. 292. Seven were in the museum of M. Keder. Catalogue p. 44. None of them present any names of moneyers not in Hildebrand's list.

|           |         |           |             |
|-----------|---------|-----------|-------------|
| Ethelwine | ᵈ Scvla | Sweglii   | Vcedee      |
| Grimvlf   | Stircol | ᵈ Thvgrim | Wiitherine  |
| Grmvlf    | Swegen  | Vcede     | Witherwinne |

From the twenty seven specimens of York coins described by Hildebrand, I select one of each type :—

1. Obv. HAROLD RECX  
Rev. GRIMVLF ON EOF
2. Obv. HAROLD REX  
Rev. STIRCOL ON EOFRWIC
3. Obv. HAROLD RE  
Rev. SWEGEN ON EOFE

A single specimen is described by Ruding :<sup>1</sup>

1. Obv. HAROLD REX  
Rev. WATHERINC ON EO

The following are in the British Museum, the obverse of each being HAROLD REX, and the reverses,

1. ÆLFERE ON EOF
2. SCVLA ONN EOFER
3. VCEDE ONEOFE.
4. WITHERWINNE ON EO

#### HARTHACNUT. 1039 to 1042.

York is not named by either Ruding or Hildebrand as one of the mints of this monarch, although the latter gives a list of twenty places in England where he coined money during his short reign ; nor have I met with the description of a single specimen of his coins struck at York.<sup>2</sup>

#### EDWARD THE CONFESSOR. 1042 to 1066.

The existing specimens of the York coins of Edward the Confessor are very numerous. The following varieties of the names of his York moneyers are given by both Ruding and Hildebrand :—

|          |           |         |       |
|----------|-----------|---------|-------|
| Aelfere  | Arncel    | ᵈ Beorn | Eltan |
| Aelfwine | ᵈ Arngrim | Cetel   | Eola  |

<sup>1</sup> Vol. II. p. 298. The name of Watherinc is not in Hildebrand's list.

<sup>2</sup> The British Museum does not possess a specimen.

|          |           |            |              |
|----------|-----------|------------|--------------|
| Erngrim  | ᵈ Scvla   | ᵈ Thorgrim | ᵈ Winterfvgl |
| Lefonoth | Stircol   | Thvrrim    |              |
| Man      | ᵈ Sæfvhel | ᵈ Vlfvstel |              |
| ᵈ Othin  | ᵈ Thorr   | Vnolf      |              |

The following are given by Ruding only :—

|            |         |         |        |
|------------|---------|---------|--------|
| Anngrimloa | Elfwine | Iola    | Vlfcil |
| ᵈ Arncetel | Earcil  | Scvlae  |        |
| Citgil     | Ioctel  | Senefrn |        |

and the following by Hildebrand only :—

|           |         |         |          |
|-----------|---------|---------|----------|
| Aelewine  | Eiola   | Storcol | Styrcol  |
| Æthelwine | Grimvle | Streoll | Vlccetel |
| Arketel   |         |         |          |

From the catalogue of M. Keder's museum we obtain two varieties, viz., Aetelwine and Grimvlf :—and two more from the following specimens in the cabinet of the Yorkshire Philosophical Society :—

1. Obv. EDWERD REX  
Rev. LEOFENOTH ON EOFE
2. Obv. EADWARD REX  
Rev. OVTHGRIM ON EOFRWI

The Society also possesses three other specimens :—

3. Obv. EDWERD REX  
Rev. IOLA ON EONEORE
4. Obv. EDWAEDRD  
Rev. STIRCOL ON EOFR
5. Obv. EADWARD REX  
Rev. ARNGRIM ON EOFR

The following varieties of types are in the Stockholm collection :—

1. Obv. EDWERD REX  
Rev. ELTAN ON EOFEIR
2. Obv. EDWARD REX A  
Rev. MAN ON EFOR
3. Obv. EDWERD REX A  
Rev. OTHIN ONN EOFRVC
4. Obv. EDWERD REX A  
Rev. SÆFVHEL ON EOR

## 5. Obv. EDWARD REX

Rev. WINTERFVGL ON EOF

Ruding describes two York specimens of the Pax type :—

## 1. Obv. EADWARD REX

Rev. SENEERN ON EOFR, across the centre, PAX<sup>1</sup>

## 2. Obv. EDWERD REX

Rev. CITGIL ONN EOFRW. In the four quarters of the  
CROSS, PACX

In this reign, halfpence and farthings were formed by cutting the pennies into two or four pieces. Specimens of York coins thus divided are in the British Museum.<sup>2</sup>

## HAROLD II. 1066.

During the few months that the second Harold held the sceptre, his mints were numerous and his coinages frequent. The amount of the money coined at his York mint must have been considerable, as Ruding mentions no less than nine varieties of the manner of representing the name of Eoferwic.<sup>3</sup> Eleven specimens are in the National Collection. The obverses vary only in reading HAROLD REX—ANG—ANGL—ANGLO—ANGLOR. The reverses are as follow :—

1. ALEOF ON EOFER
2. ERNCETEL ON EOF
3. IOCETEL ON EOFER
4. IOCETL ON EOFER
5. LEISINC ON EOFRI
6. <sup>D</sup>OVTHGRIM ON EOF
7. OVDVLF ON EOFERW
8. <sup>D</sup>SNABEORN ON EON
9. SVTERE ON EOFER
10. SWEARTCOL ON EOI
11. <sup>D</sup>VLFCETEL ON EOF

A hoard found in digging up the foundations of old houses

<sup>1</sup> Extremely rare. Hawkins, p. 73.

<sup>2</sup> Ibid, p. 74.

<sup>3</sup> Ruding, Vol. I. p. 145. None of the coins of Harold II. are mentioned by M. Hildebrand to be in the Stockholm collection. The Museum of M. Keder contained a small number, but none of the York mint. Cat. p. 33.

near the church of St. Mary Hill, London, in the year 1774,<sup>1</sup> contained two York coins of Harold II., with the following reverses :—

1. OUTHBEARN ON EOF
2. VLF CETEL ON EOF E

In the preceding lists of the York moneyers of Æthelred, Cnut, Harold I., Edward the Confessor, and Harold II., the letter D is prefixed to the names of those, who, according to M. Worsaae, were persons of Danish-Norwegian origin. Some of these names, he observes, “are so peculiarly Scandinavian that we cannot without difficulty assume them to have been borne at that time by Anglo-Saxons. Such are Othin (A.S. Woden) and Thorr, names that did not sound well in the ears of Christians. Ostman was an appellation commonly given by the inhabitants of the British Isles in those times to the Scandinavian tribes that dwelt to the east of them. Names of birds appear to have been often assumed in the old Danish part of England. Thus in York we find a Rœfn (Raven), Sœfvhel (Sea-fowl), Swan (Swan), and Winterfvgl (Winterfowl). It is remarkable that the names Sumerled and Winterled, answering to those of Sumerfugl and Winterfugl, were also found at that time in York.”<sup>2</sup>

We may reasonably suppose that the moneyers or mint-masters of these times were persons of property and intelligence. Those of an inferior class would scarcely have been placed in an office of so much responsibility and importance. The extensive list of their names which we obtain from the coins struck at York during the century preceding the Norman Conquest, if judiciously applied to the illustration of our local nomenclature, may afford valuable assistance in topographical investigations, and may be especially useful in tracing the footsteps of the Anglo-Saxon and Anglo-Danish races as they gradually distributed themselves among the “shady woods and sunny plains” of antient Northumbria.

<sup>1</sup> Archæologia, Vol. IV. p. 356.

<sup>2</sup> The Danes in England, p. 121.

## THE NORMAN ÆRA.

After the establishment of the Norman dynasty, it might be expected that some change would have taken place in the system of coinage or the description and character of the currency. But it does not appear that any alteration was made. The conqueror "struck money upon the same principles as his Saxon predecessors, retaining the same weight and fineness, and even imitating their types."<sup>1</sup>

The Domesday Survey, which notices the mints of several other towns, contains only a slight indication of the existence of such an establishment at York. The list of Norman proprietors in the city includes the name of "Nigel de Monneville, who had one mansion of a certain moneyer there."<sup>2</sup> We know, however, from the indisputable testimony of the coins themselves that the York mint continued to be in operation during the reign of King William I.

Two large hoards of the silver money of this reign have been found in the city of York. The places of concealment were not far from each other,—between the times of discovery, nearly a century and a half elapsed. In the year 1694 a destructive fire broke out on the north side of the street called High Ousegate, by which several houses standing on the site of those which are now the property of Thomas Gregory Esquire, were so much damaged that in the year 1704 the owner began to rebuild them, and in excavating for the foundations, a small oak box was found deeply imbedded among piles and timbers which had supported much more antient structures than those that were injured by the fire. The box contained about 250 silver coins, and out of fifty or sixty of them examined by Thoresby, three which were struck at York he thus describes in his catalogue of the antiquities of his Museum :<sup>3</sup>—

1. Obv. PILLEMV REX. The king's head with full face, labels at each ear hanging down from a diadem of pearls with two small arches over the head.<sup>4</sup>

<sup>1</sup> Hawkins, p. 75.

<sup>2</sup> Domesday Book, fo. 298.

<sup>3</sup> Ducatus Leodiensis, p. 350. Upon all these coins the letter W is in the Anglo-Saxon character, which nearly resembles the Roman capital P.

<sup>4</sup> Hawkins, Pl. xviii. No. 234.

Rev. THORR ON EOFER

2. Obv. PILLEMV REX I [for A]. Same device as No. 1.

Rev. PINTHBEORN ON EO

3. Obv. PILLEMV REX. The king's half face and sceptre—  
the diadem of pearls with the helm.

Rev. ODTNORIN ON EOFR

Of the coins examined by Thoresby, those with the full face he assigned to the Conqueror,—those with the side face and sceptre, to William Rufus.

The second York find was in the year 1845, when the workmen employed in taking down the houses belonging to James Lancelot Foster Esq., at the corner of Coneystreet and Jubbergate, discovered below the cellar-floor, a hoard of more than 500 silver coins, which as is usual on such occasions were speedily dispersed. Fortunately, about 200 of them passed under the examination of an eminent numismatist,<sup>1</sup> who pronounced them to be, with one or two exceptions, pennies of William the Conqueror, and of the same type as those described by Thoresby. Between eighty and ninety of them were coins of the York mint. All the pieces, Mr. Hawkins observes, seemed to have suffered in some degree from wear, and probably therefore had been withdrawn from the local circulation of the place where they were deposited.<sup>2</sup> Of ten specimens of this hoard which are in the cabinet of the Yorkshire Philosophical Society, eight have on the obverse PILLEMV REX; the ninth reads PILLEMV REX I; and the tenth PILLEMII REX I. The reverses are as follow:—

1. ANTHOLF ON EO
2. ANTHOLF ON EOFE
3. ARCETEL ON EOF
4. OVTHBEORN ON EO
5. OVTHGRIM ON EOFE
6. ROSCETEL ON EO
7. THORR ON EOFER
8. VLFCEDEL ON EO
9. O . THBEORN ON EO
10. ALEIF ON EOFERW

<sup>1</sup> Edw. Hawkins Esq.

<sup>2</sup> Numism. Chron., No. xxix. p. 123.



A most important addition to the existing coins of this and the succeeding reigns was made in the year 1833 by the accidental discovery at Beaworth in Hampshire of a hoard consisting of scarcely less than twelve thousand of the silver pennies of William the Conqueror and his son Rufus, all in a state of perfect preservation, having never been in circulation.<sup>1</sup> The number of the coins in this collection, which had issued from the York mint, is comparatively small, amounting to about eighty. As the coins of the Conqueror and his son closely resemble each other, and present no characteristic mark by which they can be satisfactorily distinguished, numismatists have experienced great difficulty in the appropriation of them. It cannot therefore be stated specifically which of the York coins in any of the hoards I have spoken of were of the mintage of King William II. The following are the several varieties they afford of the names of York moneyers:—

|          |           |           |            |
|----------|-----------|-----------|------------|
| Aleif    | Leisinc   | Rosfetel  | Thovr      |
| Antholf  | Odthnorin | Sweartcol | Vlfcetel   |
| Arcetel  | Ovthbeorn | Sweatcol  | Vpdbern    |
| Harthvl  | Ovthgrim  | Thorr     | Vpdbrn     |
| Hrdvulf  | Roscetel  | Thor      | Winthbeorn |
| Leigsing |           |           |            |

It will be observed that several of these names are in the list of the moneyers of Edward the Confessor.

Of the coins of King Henry I., except those minted at London and Canterbury, specimens are extremely rare. The other places of mintage in his reign are comparatively few. Ruding describes only a single coin struck at York:<sup>2</sup>—

Obv. HENRI REI

Rev. IV. . . . . N EBO

In a large collection of coins of Henry I. and his successor, discovered at Watford in the year 1818, two York coins of the

<sup>1</sup> Description of coins of William the Conqueror discovered at Beaworth in Hampshire; By Edward Hawkins Esq. *Archæol.*, Vol. XXVI., p. 1. Ruding, Vol. I., p. 151.

<sup>2</sup> Ruding, Vol. II., Suppl. p. 381.

former monarch were found, the legends of which are so imperfect as to be scarcely intelligible :—

1. Obv. HENR....  
Rev. .... . . EVERWIC
2. Obv. ....  
Rev. .... . . EV.....

York is placed by Ruding in his list of the mints of King Stephen,<sup>1</sup> whose coins are rare and seldom found in good condition. The only York coins of this reign that I have seen described are the following imperfect specimens from the Watford hoard :—

1. Obv. ....NE RE  
Rev. MARTIN . . . . ER
2. Obv. STI..NE REX  
Rev. OTBO . . . . V..WIC
3. Obv. STIEFNE R.  
Rev. SIBERN . . . . ER
4. Obv. S...ENE REX  
Rev. TVRSTAN ON EVER
5. Obv. ....ENE REX  
Rev. .... ON EVERW
6. Obv. S...ENE . . X  
Rev. VLF.. ON EVERWIC
7. Obv. STIEFNE  
Rev. ....F ON EVER

In the year 1684, a few silver coins were found at Cattall near Wetherby, which upon examination proved to be of types of extraordinary rarity.<sup>2</sup> One was a coin of King Stephen—another, of his son Robert Earl of Gloucester—a third had on the obverse two figures supposed to represent Stephen and Matilda—and the fourth was a coin of Eustace the eldest son

<sup>1</sup> Annals, Vol. I., p. 169.

<sup>2</sup> These coins were originally described by Thoresby, (Duc. Leod. p. 350,) who states that they were found by a person employed in digging, i. e. spreading the mole-hills, upon the inges at Cattall, a village which stands on the banks of the river Nidd near the spot where it is crossed by the antient military road from Castleford to Aldborough.

of Stephen, which having the word EBORACI inscribed upon it, is considered to have been struck at York. Eustace is said to have been sent to York by his father to be Governor of the city, and in that capacity exercised the privilege of coining money.<sup>1</sup> Only two examples of this coin are known. One, which is in the British Museum, is thus described:<sup>2</sup>—

Obv. EVSTACIVS. Half length figure holding a sword, pointed bonnet on the head, ornaments in the field.

Rev. EBORACI TDEFT. Cross raguled, within a quatrefoil. An annulet at the corners and in the spandrils.

The existing coins of King Henry II. are very numerous. At the commencement of his reign, and again towards the close of it, new coinages were issued.

A hoard of the pennies of Henry II. was discovered at Royston in the year 1721,—another at Bramham Moor in Yorkshire in the year 1756,—and a third, comprising nearly 6000 coins, at Tealby in Lincolnshire in the year 1807. Coins of the York mint were found in all these hoards. From the reverses of the York coins of the Tealby find we obtain a few names of York moneyers:<sup>3</sup>—

GODWIN ON EVERW  
HERBERT ON EVER  
JORDAN ON EVERWI  
LND... ON EVERWI  
WVLFISI ON EVERWI

In the year 1846, a hoard was found at Teston in Kent, consisting of thirty-seven silver pennies of a type which, after some controversy, is now assigned by numismatists to this reign. Only one York specimen was among them, but it adds the name of NICOLE to the list of York moneyers previously known.<sup>4</sup>

<sup>1</sup> Drake's Eboracum, p. 417.

<sup>2</sup> Hawkins, p. 85. Ruding reads the second word of the reverse EDORS, which is quite as unintelligible as the more correct transcript of Mr. Hawkins. *Annals*, Vol. II., p. 304.

<sup>3</sup> A description of a large collection of pennies of Henry II. discovered at Tealby, in Lincolnshire. By Taylor Combe, Esq. *Archæologia*, Vol. XVIII., p. 1. The coins of Henry II. show that in his reign there were mints at Durham, Newcastle, and Lancaster.

<sup>4</sup> Numism. Chron., Vol. X., p. 26.

Among the coins appropriated by Ruding to King Henry III. is a short-cross penny of the York mint, obviously of the same type as those now decided to belong to the second Henry, which bears the name of this moneyer :<sup>1</sup>—

Obv. HENRICVS REX

Rev. NICOLE ON EVE

One specimen of a York penny of the same type is in the cabinet of the Yorkshire Philosophical Society :—

Obv. HENRICVS REX

Rev. TONAS ON EVR<sup>2</sup>

In this reign, for the first time since the Domesday Survey, a notice of the officers of the York mint occurs in a contemporary record. In the 33rd Hen. II. the sheriff of Yorkshire accounted to the court of Exchequer for £226. 6s. 8d. for the Donum of the city of York assized by the king's justices upon the men of the city, not including the *moneyers*.<sup>3</sup>

A genuine coin of King Richard I. is not known to be in existence, and it seems very probable that there was no coinage during his reign.<sup>4</sup> An allusion to the York mint at this period is contained in an entry on the records of the Exchequer, from which it appears that for some default made by the moneyers, they were fined one mark each.<sup>5</sup>

It cannot be doubted that money was coined in England during the reign of King John, although the only known coins struck by him are of the Dublin and Waterford mints.<sup>6</sup> In the

<sup>1</sup> Ruding, Vol. II., p. 305.

<sup>2</sup> NICOLE and TOMAS are the names of the moneyers upon two York pennies, apparently of this type, described by Thoresby. Duc. Leod., p. 351. The latter is named as a York moneyer upon another specimen. Numism. Chron., Vol. X., p. 26.

<sup>3</sup> "Idem. Vicecomes redd. comp. de ccxxvii<sup>li</sup>. vi<sup>s</sup>. et viii<sup>d</sup>. de dono civitatis Eboraci assiso per justicias super homines ejusdem civitatis præter monetarios."—Pipe Roll. 33rd Hen. II. Madox, p. 442.

<sup>4</sup> Ruding, Vol. I., p. 177.

<sup>5</sup> "Everwich'scr'. Rann' de Glanvill' redd' comp'.—Et in defalta. viii. Monetar'. viii. m." Pipe Roll. 1st Ric. I., p. 75.

<sup>6</sup> Numism. Chron. Vol. XIV., p. 7.

9th year of his reign<sup>1</sup> King John summoned his council to deliberate “concerning the fabrication of money in divers cities and boroughs;” and writs were issued to the officers and workers of the mints of fourteen of the most important towns in England, requiring them to appear at Westminster with their dies sealed up, on a day appointed. The city of York was one of the fourteen mints whose officers were thus summoned. The result of the proceeding is not known, but there is reason to suppose that a new coinage was then ordered.<sup>2</sup>

During the long reign of King Henry III. there were two issues of new coin,—the first about six years after his accession to the throne,—the second about thirty years later. No specimens are described of the coins now assigned to this monarch which display any mark or inscription to show that they were struck at York. Yet we have satisfactory evidence that the York mint continued to be worked. In the year 1247 writs were directed to the chief municipal officers of the city of York, commanding them, by the oaths of twelve good men to chuse three trusty persons, one to be moneyer, another for the assay, and a third to be *custos cuneorum*.<sup>3</sup> This proceeding took place most probably at the time that the second coinage was in contemplation.

No more than three types are known of the pennies of Henry III. Many of those which at one time were supposed to belong to this reign are now restored by numismatists to that of Henry II.

#### THE ENGLISH ÆRA.

We have now arrived at that which is characterised as having been eminently an age of progress. During the reigns of the Edwards highly important and beneficial changes were introduced into the currency. The silver penny was no longer to be the only coin of the realm. To meet the demands and necessities

<sup>1</sup> Oct. 7th, 1207. Cal. Rot. Pat. 9th Joh. p. 3, m. 5.

<sup>2</sup> Ruding, Vol. I., p. 179.

<sup>3</sup> Ibid, Vol. II., p. 232. Pat. 32 Hen. III., m. 4.

of a population rapidly increasing in number and advancing in civilization, money of other denominations, and of higher as well as lower value, was fabricated. Great improvement was made in the artistic design and execution of the dies. The antient constitution of the mint was gradually altered and its establishment placed under a better system of management. At length, the introduction of a gold coinage, which had been unsuccessfully attempted by the third Henry, was accomplished by the third Edward.

We have no evidence of any earlier coinage of King Edward I. than that which was commenced in the seventh year of his reign. The king, who "amongst other great achievements of his most prudent government, left that of restoring and establishing good moneys for the use of his people to recommend his name to subsequent generations, sent for William de Tournemire and his brother Peter and others from Marseilles, and one Friscobald and others from Florence, and employed them in the working of money and the buying and exchanging of silver for that purpose, for which he had thirty furnaces at London, eight at Canterbury (besides three the Archbishop had there,) twelve at Bristol, twelve at York, and more in other great towns."<sup>1</sup>

It appears from an entry upon the records of the Court of Exchequer, that on the 17th of May 1279 dies for new money were delivered to Gregory de Rokesley, Mayor of London, and Roland de Podio, who were then the *Custodes Cambii*;<sup>2</sup> and in the month of December following, William de Tournemire, the Marseilles goldsmith, having been constituted master of the king's mint in England, was authorised to work the mints of London, Canterbury, Bristol, and York; and he undertook to make great sterlings [*grossus sterlingos*] to be of four times the value of the lesser sterling, and also farthings, [*ferlingos*] throughout England.<sup>3</sup>

It seems probable that the French and Italian artists brought

<sup>1</sup> Lowndes's Essay for the amendment of the silver coins, p. 94.

<sup>2</sup> Madox, p. 605.

<sup>3</sup> Indenture with William de Turnemire, 8th Edw. I. Ruding, Vol. II., p. 447.

over by the king were employed in the execution of the dies for his first coinage. Several changes were then introduced into the legends inscribed upon the coins, the most remarkable being the omission of the name of the moneyer, that of the place of mintage being retained.

There must have been several other coinages during the subsequent part of this reign, but the only one of which the date is ascertained is that which took place in the year 1300, when mints were ordered to be worked at Newcastle-upon-Tyne, Kingston-upon-Hull, and Exeter, places not mentioned in the appointment of Tournemire in 1279.<sup>1</sup> In the 33rd year of this reign (A.D. 1305), John de Sandale, who was assay-master and keeper of the exchange of England, was appointed *Custos Cambium* of London, York, Canterbury, Bristol, Chester, Newcastle-upon-Tyne, Kingston-upon-Hull, and Exeter.<sup>2</sup>

Of the pennies of King Edward I. struck at the York mint, numerous specimens are extant bearing the following inscriptions:—

Oby. EDW R ANGL DNS HYB

Rev. CIVITAS EBORACI

Eighteen York pennies were among the immense number of the coins of the first and second Edwards, found in the bed of the river Dove near Tutbury in Staffordshire, in the year 1831.<sup>3</sup> Fourteen were in a smaller hoard of coins of the same monarchs found at Wyke in the parish of Harewood in Yorkshire, in the year 1836.<sup>4</sup> The greater proportion of the York coins in both hoards are assigned to the first coinage of Edward I. Several others, distinguished by a star upon the breast of the sovereign, are supposed to be of the coinage of the year 1300. The rest most probably belong to the intermediate coinages. The Yorkshire Philosophical Society possesses four specimens, apparently

<sup>1</sup> Ruding, Vol. I., p. 202.

<sup>2</sup> Ruding, Vol. I., p. 26.

<sup>3</sup> Remarks upon coins discovered near Tutbury in Staffordshire; By Edward Hawkins Esq. Archæol., Vol. XXIV., p. 148. It is computed that this find contained not less than 200,000 pieces of money.

<sup>4</sup> An account of coins of Edward I. and II., discovered in February 1836; at Wyke near Leeds in Yorkshire; By Messrs. Francis Sharpe and Daniel Henry Haigh. Archæol., Vol. XXVIII., p. 47.

of the type of 1279. Some of the pennies minted at York have a cross on the king's breast, and a quatrefoil in the centre of the cross upon the reverse.

It would appear that both halfpennies and farthings of this reign were struck at York, but only a single specimen of each is described.<sup>1</sup>

The earliest or pattern groat, having on the obverse the style EDWARDVS DI GRA REX ANGL, of which the specimens are very rare, and as to the date of which earlier numismatists entertained some doubt, Mr. Hawkins claims as a coin of Edward I.,<sup>2</sup> and if it be so, that monarch was the first to place after his name upon the money of the realm, the pious ascription DEI GRATIA.

No groat of Edward I. has hitherto appeared bearing the name of any provincial mint.

The coins of King Edward II. resemble in type those of his father. Two of his pennies, struck at York, are in the national collection.<sup>3</sup> One is described by Ruding;<sup>4</sup> and another is engraved by Mr. Hawkins:<sup>5</sup>—

Obv. EDWAR R ANGL DNS HYB

Rev. CIVITAS EBORACI: a quatrefoil in the centre of the cross.

No York halfpenny is described. The farthings of the second are not distinguishable from those of the first and third Edwards.

The great monetary achievement of the reign of King Edward III., was the introduction of a gold coinage into the currency of England. This important measure was determined upon by the parliament which sat at Westminster in the year 1343.<sup>6</sup> In the first instance, it seems not to have been intended that the coinage of the precious metal should be intrusted to the provincial mints, but soon after parliament had ordained that

<sup>1</sup> Ruding, Vol. II., p. 381. Hawkins, p. 96, referring to Withy's plates, VI., 34.

<sup>2</sup> Hawkins, p. 92.

<sup>3</sup> Ibid, p. 97.

<sup>4</sup> Vol. II., p. 381.

<sup>5</sup> Pl. 23, No. 303.

<sup>6</sup> 17th Edw. III.



“money of gold should go in payment at a certain price,” a petition was presented to the king by the commons praying that exchanges might be established in the chief towns of each county, and that coins of gold as well as silver should be made in York for the ease of the people and the merchants of the North.<sup>1</sup> The prayer of the petition was granted, and in the year 1344 an Act was passed ordering money of gold and silver to be made in the city of York by the coiners and moneyers of the king in the same manner as in the Tower of London.<sup>2</sup>

In the year 1345, Anthony By-the-sea was appointed warden and supervisor of the mints of London, York, and Canterbury; and Conrad Royer and his associates, Eastland merchants, were authorised to hold exchanges in the same three cities, the king engaging that they should not be compelled to exchange more than 1000 marks per week in London, and 500 marks per week in each of the cities of York and Canterbury.<sup>3</sup> As a proof of the encouragement given to foreign artisans to settle in the provinces, it may be mentioned that about this time two goldsmiths from Cologne, and two moneyers from Florence, came to York and were admitted to the freedom of the city.<sup>4</sup>

Whether any of the gold money of King Edward III. were minted at York, I am unable to ascertain. Most probably the earlier fabrication of these beautiful coins did not extend beyond the Tower mint, the circulation of them being at first extremely limited. In the year 1353<sup>5</sup> a large coinage of silver money took place. Henry de Brussels, who had previously been the king’s mint master at Calais, was now made master of the works of the king’s moneyers at York; and William de Rockewell, the warden of the Tower mint, was commanded to deliver to him for the use of the York mint, six standards and eighteen trussels for making the king’s money of the die called the Gross; four standards and twelve trussels for the Half-gross; and three standards and twelve

<sup>1</sup> Rot. Parl., Vol. II., p. 149.   <sup>2</sup> Stat. 18 Edw. III., c. 6.   Fœd. Vol. V., p. 416.

<sup>3</sup> Pat. 19 Edw. III., p. 1. m. 15.   Ruding, Vol. I., p. 221.

<sup>4</sup> Lawrence de Florence and Bonache de Florence, moneyers, and Sibert de Colonia and John de Colonia, goldsmiths.   <sup>5</sup> 27th Edw. III.

trussels for sterlings.<sup>1</sup> At this time William Hunt was warden of the mint and keeper of the exchanges at York.<sup>2</sup> Among the antient mint accounts preserved in the Exchequer is a return from the York mint which shows that the value of the silver bullion coined at York in the 28th and 29th years of this reign amounted to the sum of £1892 5s. 9d.<sup>3</sup>

The silver coins struck at the York mint during the reign of Edward III. were groats, half-groats, pennies, halfpennies, and farthings.

Of the York groat, three specimens of the following type are in the cabinet of the Yorkshire Philosophical Society:<sup>4</sup>—

Obv. EDWARD D G REX ANGL Z FRANC D HYB. MM. Cross patée.<sup>5</sup> Annulets between the words.

Rev. POSVI DEVM ADIVTOREM MEV, outer circle.

CIVITAS EBORACI, inner circle.

A Half-groat of the York mint is described by Ruding:<sup>6</sup>—

Obv. EDWARDVS REX ANGL FRA Z HI. MM. a cross.

Rev. POSVI DEV ADIVTOREM, outer circle.

CIVITAS EBORACI, inner circle.

The legends on the York pennies usually read,<sup>7</sup>

Obv. EDWARDVS REX ANGLI. MM. a cross.

Rev. CIVITAS EBORACI. A quatrefoil in the centre.

The national collection has a specimen with the peculiarity of having a small open quatrefoil on the right of the mint-mark on both sides; and another with the legend EDWARD REX ANGL Z FRA on the obverse. No York halfpenny is described; and only one farthing, which reads, Obv. EDWARDVS REX. Rev. CIVITAS EBORACI.<sup>8</sup>

No other provincial mints were in operation during the reigns of King Richard II. and King Henry IV., than those of the cities of York and Durham. The only denomination of coin

<sup>1</sup> *Fœdera*, new Ed., Vol. III., pt. 1. p. 261.      <sup>2</sup> Ruding, Vol. I., p. 84.

<sup>3</sup> *Ibid.*      <sup>4</sup> MS. Catalogue, p. 41. Nos. 13, 14, 15.

<sup>5</sup> The distinguishing marks, technically called mint-marks, were first brought into use in this reign. Hawkins, p. 99.

<sup>6</sup> Vol. II., p. 307. pl. 3, No. 14.

<sup>7</sup> Ruding, Vol. II., p. 307. pl. 3, No. 18. pl. 24, No. 311.      <sup>8</sup> Hawkins, p. 101.

known to have issued from the York mint in these reigns are pennies. Those of Richard II. are thus described :—

1. Obv. RICARD REX ANGL Z FRAN. MM. a cross.

Rev. CIVITAS EBORACI. A double rose in the centre of the cross.<sup>1</sup>

2. Obv. RICARDVS REX ANGLIE. MM. a cross.

Rev. CIVITAS EBORACI. A cross before CIVITAS.<sup>2</sup>

Other varieties of the York penny of Richard II. are mentioned by Mr. Hawkins, in whose excellent work a single specimen of the very rare York pennies of Henry IV. is engraved :

Obv. HENRIC REX ANGL Z FRANC. MM. a cross patée.

Rev. CIVITAS EBORACI. An open quatrefoil in the centre.<sup>3</sup>

No English coins of King Henry V. have been distinctly recognized. A large coinage, which had been undertaken by the government of that monarch a short time previous to his death, was completed in the first year of the reign of his successor. Bartholomew Seman *alias* Goldbeter, a London goldsmith, who had held under Henry V. the office of master and worker of the king's monies of gold and silver in the tower of London and the town of Calais,<sup>4</sup> was by an appointment dated the 16th of February 1423, authorised to coin at York and Bristol, as well as at London and Calais,<sup>5</sup> and by command of the council of King Henry VI. he was sent to York, "to coin there the gold and silver of the said country that was not of right weight, and to remain there during the king's pleasure."<sup>6</sup> By a document dated at Westminster a few months later,<sup>7</sup> Goldbeter was constituted warden and changer of the king's exchanges of gold and silver in the city of York; and by the terms of this appointment he was required to carry all the gold and silver he should receive in the said exchanges, or should purchase by color of his office, to the London mint to be melted and coined. About the same time an appointment took place

<sup>1</sup> Ruding, Vol. II., p. 308, pl. 4, No. 5.

<sup>2</sup> Hawkins, p. 102, pl. 24, No. 319.

<sup>3</sup> *Ibid.*, p. 104, pl. 26, No. 337.

<sup>4</sup> Rot. Parl., Vol. IV., p. 177.

<sup>5</sup> Ruding, Vol. I., p. 269.

<sup>6</sup> Rot. Parl., Vol. IV., p. 200.

<sup>7</sup> 15th July 1423. Archives of York Corporation.

of officers of the king's mint at York.<sup>1</sup> Thomas Roderham was made comptroller, exchanger, and assayer; and Thomas Haxey, warden of the mint at the city of York.<sup>2</sup> It seems probable that soon afterwards Goldbeter took his departure from York, and the working of the mint there was temporarily suspended. In the second parliament of this reign which commenced its sittings at Westminster on the 20th of October 1423, a petition was presented from all the northern counties, complaining that although the mint-master had been to York and established the mint there, to the great profit of the king and accommodation of the same counties, yet he and his workers having now left the city, defective money was still current, to the great damage and inconvenience of the community; and the petitioners prayed that he might be ordered to return to the city and coin there as he had done before, and that he or his sufficient deputy might be required to remain there: and moreover that all the gold in those parts, which was not of right weight, should be required by law to be brought to the York mint and coined there before the ensuing Michaelmas. Parliament thought fit to listen to the remonstrances of the people of the North; and doubtless in consequence of their application, Goldbeter resumed the exercise of his functions as master and worker of the mint at York.<sup>3</sup>

In the year 1425, the treasurer and barons of the Exchequer were commanded to render an account of the assay of all monies of gold and silver coined by Bartholomew Goldbeter, master of the mints in the tower of London, the ville of Calais, and the castle of York. The account of the monies coined at York was to extend from the 16th of October 1423 to the 7th of August following. In October 1424, the assay, or trial of the Pix, was made at Westminster, but the result as regards the York coinage is not known. Goldbeter died a few years afterwards. In the *quietus* granted to his executor in 1431, he is described as lately the king's mint-master.<sup>4</sup> In his place, William Russe, a citizen and jeweller of London, was appointed to the office of


<sup>1</sup> July 20th, 1423. Pat. 1st. Hen. VI., p. 5. m. 12.    <sup>2</sup> Ruding, Vol. II., p. 233.

<sup>3</sup> Rot. Parl., Vol. IV., p. 200. Ruding, Vol. I., p. 270.


<sup>4</sup> Cal. Rot. Pat. 11th Hen. VI., p. 2., m. 18.

master of the mints of London, Calais, Bristol, and York.<sup>1</sup> Russe was succeeded by John Paddesley, who had been exchanger in the reign of King Henry V.

It might be inferred from these details that gold was coined at York in the reign of Henry VI., but I am unable to discover that any gold coin is extant which is assigned to the York mintage of this monarch. Of the silver money struck at York numerous specimens exist, although some types are extremely rare. GROATS.<sup>2</sup>

1. Obv. HENRIC DI GRA REX ANGLIE Z FRANC. MM. a cross.  
On each side of the neck a fleur-de-lis.  
Rev. POSVI DEVM ADIVTORE MEVM, outer circle.  
CIVITAS EBORACI, inner circle.
2. Obv. HENRICV DI GRA REX ANGL Z FRANC. MM. lis.  
On the breast  for Eboracum.  
Rev. POSVI DEVM ADIVTORE MEVM, outer circle.  
CIVITAS EBORACI, inner circle.

#### HALF-GROATS.

1. Obv. HENRIC DI GRA REX ANGL Z F. MM. lis. A rose  
between each word.  
Rev. POSVI &c., outer circle.  
CIVITAS EBORACI, inner circle.<sup>3</sup>
2. Obv. HENRICV &c.  on the breast, for Eboracum.  
Rev. CIVITAS EBORACI.<sup>4</sup>

#### PENNIES.<sup>5</sup>

1. Obv. HENRIC REX ANGLI. A mullet on one side of the  
head and a trefoil on the other.  
Rev. CIVITAS EBORACI.

<sup>1</sup> Cal. Rot. Pat. 10th Hen. VI., p. 1, m. 29. Ruding, Vol. II., p. 195.

<sup>2</sup> No. 1.—Ruding, Vol. II., p. 369. Supp. pl. 2, No. 18. Extremely rare. Hawkins, p. 105. No. 2.—Ruding, Vol. II., p. 309. Pl. 4, No. 19. Hawkins, p. 108. Mr. Ruding states that these groats were coined under an indenture of coinage made with Sir Richard Tunstall, Knight, master of the mint in the year 1470, during what is called Henry's interstitial restoration.

<sup>3</sup> Ruding, Vol. II., p. 369. Supp. pl. 2, No. 22.

<sup>4</sup> In the late Mr. Cuff's collection. Very rare.

<sup>5</sup> No. 1.—Ruding, Vol. II., p. 370. Supp. pl. 2, No. 28. No. 2.—Ibid. No. 33. Hawkins, pl. 26, No. 340.

2. Obv. HENRICVS REX ANGLIE. A cross on each side of the head.

Rev. CIVITAS EBORACI. A rose in the centre of the cross.  
MM. a cross croslet.

HALFPENNY.<sup>1</sup>

Obv. HENRICI REX ANGL. MM. a cross croslet.

Rev. CIVITAS EBORACI.

That gold as well as silver money was coined at the York mint in the reign of King Edward IV. is proved by documentary evidence as well as by the testimony of the coins themselves. The records of the Exchequer, which afford very meagre information respecting any of the provincial mints, happen to give the following statement of the quantity of bullion received in two consecutive years at the York mint for the purpose of being coined :

|  | SILVER.      | GOLD.       |
|--|--------------|-------------|
| From Michaelmas 1469 to Michaelmas 1470, | £1312. 6. 0. | £88. 0. 0.  |
| From Michaelmas 1470 to Michaelmas 1471, | £242. 8. 0.  | £54. 7. 10. |

The two years over which this account extends witnessed some of the most momentous of the political changes that took place during this disturbed period. Towards the close of the year 1469 Edward was dethroned and the temporary restoration of Henry was accomplished by Warwick and his party. In the spring of 1470 the deposed monarch escaped from his imprisonment, and came to York where he remained a short time. In the month of September following, Edward again visited the city for a few days previous to his leaving the kingdom and sailing for Holland. In March 1471 he returned to England and landing at Ravenspurne proceeded thence to York where with some difficulty he obtained permission to make a brief sojourn. Within a few months afterwards the battles of Barnet and Tewkesbury were fought, in which the Lancastrians were routed; the death of the unfortunate Henry quickly followed, and Edward was again triumphant :

Once more he sat in England's royal throne.

<sup>1</sup> Ruding, Vol. II., p. 371. Supp. pl. 3, No. 9. Hawkins, pl. 26, No. 339.

Hence it seems extremely doubtful "under which king" the coinages of the York mint, between Michaelmas 1469 and Michaelmas 1471, were made. But the following gold coins of Edward IV. are extant, which are distinguished by the marks pronounced by numismatists to be the characteristic of the York mint:—

NOBLE.<sup>1</sup>

Obv. EDWARD DI GRA REX ANGL Z FRANC. The king standing on a ship, a flag with ☉ at the stern, a rose on the side, ☉ under the ship, for Eboracum. MM. a sun.

Rev. A rose in the centre of the sun.

HALF-NOBLE.<sup>1</sup>

Same type with ☉ under the ship, for Eboracum. MM. a sun.

HALF-RIAL.<sup>2</sup>

Obv. EDWARD DI GRA REX ANGL Z FRANC. A full blown rose on the side of the ship with ☉, for Eboracum, under the rose.

Rev. DOMINE NE IN FVRORE TVO ARGVAS ME. MM. the sun.

QUARTER-RIAL.<sup>3</sup>

Obv. EDWARD DI GRA REX ANGL. Shield of arms, France and England quarterly, within a tressure of four arches. The letter ☉ above the shield, a rose on one side, a sun on the other. MM. a cross.

Rev. EXALTABITUR IN GLORIA. MM. a rose.

ANGEL.<sup>4</sup>

Obv. EDWARD DEI GRA REX ANGL Z FRANC. The archangel Michael destroying the dragon.

Rev. PER CRUCEM TVA SALVA NOS XPE REDEMPT. A ship with a large cross for the mast, with the letter ☉ on the right side and a rose on the left. On the side of the ship a shield of arms, France and England quarterly. MM. a cross.

<sup>1</sup> In the late Mr. Cuff's collection. Very rare.

<sup>2</sup> Ruding, Vol. II., p. 348. Pl. 3, No. 6.

<sup>3</sup> Ibid, p. 349. Pl. 3, No. 9. Ruding describes the obverse of another half-rial struck at York.

<sup>4</sup> Ibid, No. 11.


ANGELET.<sup>1</sup>

Obv. EDWARD DEI GRA REX ANGL.

Rev. O CRVX AVE SPES VNICA. Type on both sides the same as the Angel.

The following are known silver coins of Edward IV. struck at York :—

GROAT.<sup>2</sup>

Obv. EDWARD DI GRA REX ANGL Z FRANC. A rose on each side of the neck, an  on the breast. MM. lis.

Rev. POSVI DEVM ADIVTORE MEUM, outer circle.  
CIVITAS EBORACI, inner circle. MM. lis.

HALF-GROAT.<sup>3</sup>


Obv. EDWARD DI GRA REX ANGLI Z FRA. MM. lis on both sides.

Rev. POSVI DEVM ADIVTORE MEVM, outer circle.  
CIVITAS EBORACI, inner circle.

PENNIES.<sup>4</sup>

1. Obv. EDWARD DI GRA REX ANGL. MM. a rose.

Rev. CIVITAS EBORACI. An open quatrefoil in centre of cross.

2. Obv. Same as No. 1.  for Eboracum to the right of the neck, a rose to the left.

Rev. Same as No. 1.

A halfpenny of this king, struck at York, was in the late Mr. Cuff's collection, but no York farthings are described.

During the short reign of King Edward V. it is probable that no coinage took place.

The only coins known to have been struck at York by King Richard III. are groats and pennies, and both are extremely rare. A specimen of the groat is described by Ruding :<sup>5</sup>—

<sup>1</sup> Ruding, Vol. II., p. 349. Pl. 3, No. 12.

<sup>2</sup> Ibid, p. 309. Pl. 5, No. 6. Hawkins, p. 113.

<sup>3</sup> Hawkins, p. 115. Pl. 27, No. 350. Rare.

<sup>4</sup> Ibid. Ruding, Vol. II., p. 371. Supp. pl. 3, No. 19 and No. 23. M.S. Catalogue Y. P. S., p. 75, No. 102.

<sup>5</sup> Vol. II., p. 310. Pl. 5, No. 16. Hawkins, p. 118.



Obv. RICARD DI GRA REX ANGL Z FRANC.

Rev. POSVI DEVM ADIVTORE MEVM, outer circle.

CIVITAS EBORACI, inner circle. MM. United rose and sun.

The Yorkshire Philosophical Society possesses one specimen of the penny :<sup>1</sup>—

Obv. RICARD . . . . . Cross or rose on the breast.

Rev. CIVITAS EBORACI. Quatrefoil in centre of cross.

King Henry VII. had three great coinages of silver, the earliest of which took place in the second year after his accession.<sup>2</sup> The greater number of the existing specimens of the York coins of this reign are of those which were struck in the mint of the Archbishops of York, and it is not always practicable to discriminate between the archiepiscopal coins and those issued from the royal mint.

A half-groat of the first coinage, of which several specimens are known, is thus described :<sup>3</sup>

Obv. HENRICI DI GRA REX AGLI Z FRAN. A rosette between each word.

Rev. POSVI DEVM ADIVTORE MEVM, outer circle.

CIVITAS EBORACI, inner circle. MM. lis on both sides.

The following half-groat of the second coinage is most probably of the royal mint :<sup>4</sup>

Obv. HENRIC DI GRA REX AGL. Full face with arched crown.

Rev. POSVI DEVM ADIVTORE MEVM, outer circle.

CIVITAS EBORACI, inner circle. MM. a martlet on both sides.

Of the third coinage, which took place in the 18th year of this reign,<sup>5</sup> no York specimens are known but such as appear to have issued from the archiepiscopal mint.

<sup>1</sup> M.S. Catalogue, p. 75, No. 103.

<sup>2</sup> Dies for the provincial mints were delivered in July 1487.

<sup>3</sup> Ruding, Supp. pl. 2, No. 22. Hawkins, p. 122.

<sup>4</sup> Ruding, Vol. II., p. 310. Pl. 6, No. 9.

<sup>5</sup> Several remarkable novelties were introduced about this time. Gold coins called sovereigns and half sovereigns, and silver coins called shillings were now

There were five coinages of silver in the reign of King Henry VIII.; the first immediately after his accession, the second about eighteen years later, and the three last at short intervals during the four or five years preceding his death.

Of the first and second coinages, all the York specimens described are of the archiepiscopal mint. Of the third, the following are in the national collection:—

**GROAT.**<sup>1</sup>

Obv. HENRIC D G AGL FRA Z HIB REX. Mantled bust.

Rev. CIVITAS EBORACI. Two trefoils before and after each word. Shield and cross.

**HALF-GROAT.**<sup>2</sup>

Obv. HENRIC 8 D G AGL FR Z HI REX.

Rev. CIVITAS EBORACI. Shield and cross.

**PENNY.**<sup>3</sup>

Obv. H. D. G. ROSA SINE SPA.

Rev. CIVITAS EBORAC.

**HALF-PENNY.**<sup>4</sup>

Obv. H. D. G. ROSA SINE SPINA.

Rev. CIVITAS EBORACI. Cross fourchée and pellets.

Of the fourth and fifth coinages, groats, half-groats, and pennies are extant, which were struck at York.<sup>5</sup>

Among the enormities imputed to this monarch not the least atrocious was his debasement of the currency. In his latest coinage the quality of the silver was reduced to the lowest degree of fineness that had ever disgraced the English mint. For this issue which took place in the year 1545, a patent was

first struck. The device on the reverse of the shilling was formed of the armorial bearings of France and England, quarterly, in a plain shield, being the first example of the royal coat-armour being thus displayed upon a silver coin. Upon some of the types of this denomination, the numeral VII. or the word SEPTIM. was affixed to the name of the king, this distinction not having been used since the reign of King Henry III.

<sup>1</sup> Hawkins, pl. 31, No. 403.

<sup>2</sup> Ruding, Vol. II., p. 314. Pl. 8, No. 14. Hawkins, p. 135. A specimen of this type is in the cabinet of the Y. P. S. M.S. Catal., p. 55, No. 29.

<sup>3</sup> Hawkins, p. 133. M.S. Catal. Y. P. S., p. 76, No. 116.

<sup>4</sup> Hawkins, p. 135, pl. 31, No. 407.

<sup>5</sup> Specimens are in the National collection. Hawkins, p.p. 136, 138.

granted to authorize the coinage of groats, half-groats, pennies, halfpennies, and farthings at the York mint.<sup>1</sup>

In the first coinage of King Edward VI. which was of the same low standard as that of the latter years of his father,<sup>2</sup> the York mint does not appear to have been in operation, but in the second year of Edward's reign contracts<sup>3</sup> for coining were entered into with the mint-masters of York, Southwark,<sup>4</sup> and Canterbury, and an attempt was then made to effect an improvement of the standard.<sup>5</sup> The office of York mint-master was at that time held by George Gale, an eminent goldsmith and citizen of York,<sup>6</sup> who had been under-treasurer of the mint in the reign of Henry VIII. No York specimens of this coinage, are described. Mr. Ruding mentions a shilling bearing the date 1549, and the letters **Y** **G** in a monogram, which he thinks are indicative of the York mint, but in this attribution he is obviously mistaken.<sup>7</sup>

In the year 1551, the coinage of money of a proper standard was at length accomplished; and from the London mint, crowns, half-crowns, shillings, sixpences, and threepences, were issued of the sterling value. In the York mint, sixpences and threepences were coined of the proper degree of fineness, but the smaller coin,—pennies, halfpennies, and farthings,—were fabricated of base metal in obedience to a specific order of the government to that effect. This singular fact is recorded by

<sup>1</sup> Ruding, Vol. II., p. 232.

<sup>2</sup> Hawkins, p. 138.

<sup>3</sup> Lowndes, p. 45. Ruding, Vol. I., p. 313.

<sup>4</sup> Sir John Yorke was the Southwark mint-master, and the coins issued from that mint, are distinguished by his initial Y preceding the king's name on the obverse, and the legend on the reverse. This mint mark has occasioned Leake to assign, incorrectly, several of the gold and silver coins of this reign to the York mint. Mr. Drake also has fallen into the same error. Eborac. Appx. pp. cviii. cix.

<sup>5</sup> Hawkins, p. 140.

<sup>6</sup> George Gale was Sheriff of York in 1530, and Lord Mayor in 1534 and 1549. He was the ancestor of Dr. Thomas Gale, Dean of York, father of Roger Gale and Samuel Gale, the eminent antiquaries. One of the mint-master's daughters married Sir Thomas Fairfax, father of the first Lord Fairfax of Denton, whose son and grandson were the distinguished parliamentary generals.

<sup>7</sup> Ruding, Vol. II., p. 315. Pl. 9, No. 10. Hawkins, p. 141.

the youthful monarch in his journal of the events of his life, which he kept with characteristic industry and regularity. On the 24th of September 1551, the king notices the order of council made on that day for a general coinage of fine silver, and adds, "In the city of York and Canterbury should the small money be wrought of a baser state."<sup>1</sup> This nefarious order, which was duly acted upon at the York mint, was revoked a few months afterwards, but in the mean time a large amount of base coin had been issued to the public, and much mischief and inconvenience had been occasioned. Notice of the revocation was transmitted to York by the Lords of the Privy Council in the month of March 1552, and the officers of the York mint replied in a letter dated the 9th of the following month, in which they state that they had stayed the base standard of all small moneys; "Notwithstanding" the mint-master adds, "I am charged at this present to the king's subjects for money received into the office to the sum of vi<sup>o</sup> pounds and better; and how or what order shall be taken for the discharge of the same, I most humbly beseech your good lordships to know your further pleasures: and there lyeth in the base standard aforesaid in ingot, plate, and cicell, a certain quantity; and we have coined of the said standard of small moneys viii<sup>o</sup> pounds,<sup>2</sup> whereof it is almost dispatched unto the subjects according to the order taken by an indenture for the same, so that the rest that remaineth of the small moneys will not be able to bring forth the other fine moneys according to the order taken, which ought to be given to the king's majesty's subjects, wherefore we most humbly beseech you to consider the same."<sup>3</sup>

The following specimens are extant of York money of the proper standard:—

<sup>1</sup> Ruding, Vol. I., p. 323.

<sup>2</sup> Ruding misreads this £8. Vol. I., p. 324.

<sup>3</sup> The original of this letter is preserved among the manuscripts in the British Museum. Harleian MS., No. 38, Fol. 236. It is signed George Gale, John Winde, Richard Lee. The two latter were most probably officers of the mint next in rank to the mint-master.

SIXPENCE.<sup>1</sup>

Obv. EDWARD VI D G AGL FRA Z HIBER REX. A rose at one side of the king's head. VI. for sixpence at the other. MM. a mullet pierced, on both sides.

Rev. CIVITAS EBORACI. Cross and shield.

THREEPENCE.<sup>2</sup>

Obv. EDWARD VI D G AGL FR Z HIB REX. Device, the same on both sides as the sixpence, except III. to denote the value. MM. mullet pierced.

Rev. CIVITAS EBORACI.

Two specimens of the York pennies of the base coinage of 1551, are in the cabinet of the Yorkshire Philosophical Society:<sup>3</sup>—

Obv. E D G ROSA SINE SPINA. A full blown rose. MM. mullet pierced.

Rev. CIVITAS EBORACI. Cross and shield.

After the demise of King Edward VI. the practice of coining in the provincial mints entirely ceased, except for a short period during the troubles of King Charles I., and again for the great re-coinage in the reign of King William III. Previously to noticing the operations of the York mint upon these two occasions, I will advert to the proceedings which took place at York in consequence of the "wise though unpopular measure" adopted by Queen Elizabeth for the reformation of the base monies issued by her predecessors.

It was not until nearly two years after her accession that the Queen determined to take this important step. At the beginning of the month of September 1560 it was whispered at court that "there was likely to be a calling down of the base monies very shortly, but the Queen had sworn that the day and time should be kept secret to herself, and that few beside should

<sup>1</sup> Ruding, II., 316. Hawk., p. 143. Pl. 33, No. 423.

<sup>2</sup> Hawkins, p. 143. Pl. 33, No. 424.

<sup>3</sup> MS. Cat., p. 77. Nos. 117, 118. Ruding, Vol. II., p. 316. Pl. 10, No. 13. Hawk., p. 143.

know.”<sup>1</sup> On the 27th of that month the royal proclamation was published by which the base coins were at once reduced to as near their real value as might be, viz. the base penny to  $\frac{3}{4}$ d., the 2d. to  $1\frac{1}{2}$ d., and the testoon or sixpence to  $4\frac{1}{2}$ d., “except certain testoons marked in the uppermost part in the border thereof with one of the following four marks viz., a lion, a rose, a harp, or a flower-de-luce, which were so base and full of copper that they could not bear any convenient or like value as the others did; and therefore it was commanded that the testoons with such marks should from that time be taken as current at  $2\frac{1}{4}$ d. each, and no more, being as much as they were proved to contain in value, and so to continue as current money only during the space of four months.”

Much trouble having arisen from the difficulty of distinguishing the testoons of  $2\frac{1}{4}$ d., from those of  $4\frac{1}{2}$ d., a further proclamation was issued upon the 9th of the ensuing month of October,<sup>2</sup> ordering that certain persons should be appointed by the Mayor of London to inspect the coins brought to them, and they were authorised to strike those of  $4\frac{1}{2}$ d., with the mark of a portcullis before the face of the King, and those of  $2\frac{1}{4}$ d., with the print of a greyhound behind the head of the King, that the same might be better known; And should this order prove to be useful, her Majesty would cause the like to be observed in other cities and towns.

Soon after the issuing of the latter proclamation, the necessity of extending the order to the chief provincial towns became obvious, and stamping irons with the devices of the portcullis and the greyhound were transmitted to York, with directions to use them according to the tenor of the proclamation.<sup>3</sup>

<sup>1</sup> Letter from Francis Alen to the Earl of Shrewsbury dated at Westminster 3rd Sept. 1560. Lodge's Illustrations, Vol. I., p. 423.

<sup>2</sup> Ruding, Vol. I., p. 337.

<sup>3</sup> The cabinet of the Yorkshire Philosophical Society contains a coin of Edward VI. of very base silver, countermarked with a greyhound stamped behind the head of the king. MM. a lion, date 1551. See MS. Catalogue, p. 25, No. 3. Ruding has engraved the obverse of two coins which he denominates shillings (Pl. 9, Nos. 14, 15):—

1. EDWARD VI. D. G. AGL. GRA. Z HIBER. REX. MM. a swan. Counter-marked with a portcullis in the field.

In the month of April 1561 the stamping irons were returned to the London mint, with the following letter :—

*To the Right worshipful Mr. Thomas Stanley Esquire  
Treasurer of the Q. Majesty's Mint at London, give  
these.*

Right Worshipful: after our hearty commendations these may be to advertise you that where we lately received at the hands of William Patten esquire Receiver General to the Q. Majesty in Yorkshire one bag of canvas sealed having this word, YORK, written on the outside of the said bag, together with three dozen stamping irons in the same contained, that is to say, twenty-four of the mark of portcullis and twelve residue of the greyhound, which we have ever since from time to time as occasion required used and occupied according to the tenor of the Q. Majesty's letter under her Grace's signet to us in that behalf directed. And now seeing there is no more need of the use of any of the said irons we have caused them to be sealed up again in the said canvas bag, and sent unto your mastership by our honest neighbour bearer hereof according as in the said letter is given us in commandment, desiring your good mastership to deliver him some billet of remembrance for the receipt of the same accordingly for our discharge. And thus Almighty God preserve you in much worship with good health.

From York the xiiijth of April, 1561.

Your friends to their power

Parsyvall Craforth, Mayor of York and his  
brethren aldermen of the same.

2. Same legend. m. m. a rose. Countermarked with a greyhound behind the king's head.

There can be no doubt, I think, that these coins are the testoons decried by the proclamation of Queen Elizabeth. "The lady Elizabeth now our most gracious queen," says Harrison in his *Description of Britaine*, "utterly abolished the use of copper coin and converted the same into fine silver, as peeces of halpenny fardynge, of a peny, of three half pens, peeces, of twoopence, of three pence, of four pence (called y<sup>e</sup> groate) of sixe pence usually named the testone, and shilling of twelve pence, whereon she hath imprinted hir owne ymage and emphaticall superscription." Holinshed. Ed. 1577, p. 117.

A week after the date of the preceding letter, the Lord Mayor of York received from the Lords of the privy council the following communication, from which we learn that the base money had not been carried into the mints so freely as was expected, and that some delay had occurred in obtaining new coin in lieu of it.

*To our loving friends the Mayor and Aldermen of the city of York. Haste—haste—haste.*

After our hearty commendations. Where the Queen's Majesty did of late by her proclamation<sup>1</sup> give notice to the whole realm of her good determination to have her base money of iiiij<sup>d</sup> ob. to be decried and made bullyon by a certain day in the same proclamation limited, which is nigh at hand, and did further by her said proclamation signify that whosoever should bring the said base moneys to her Majesty's mint in the Tower before the xxvth of April next he should have the same converted into fine moneys, and further have iiiij<sup>d</sup> for every pound of the said base moneys so before that time brought, for which purpose her Majesty hath been and is daily at great charge in keeping a great number of Almaynes refiners at her said mint; forsomuch as there hath not hitherto such quantity of the said base moneys been brought to the mint as was looked for, we cannot but gather that there hath been either some mistaking of her Majesty's proclamation, or otherwise that the same hath not been published as it ought to be, or else that some vain mistrust hath been conceived of the repayment and exchange of the base moneys that should be brought in. We have therefore thought good both to require and command you in the Queen's Majesty's name, that if the said proclamation be not already proclaimed, then to cause the same to be proclaimed without delay upon the next market day to be holden within that city: And if it hath been, yet that by some good means her Majesty's determination be declared to all her subjects thereabout, and give them plainly to understand that her highness will not suffer the said

<sup>1</sup> This proclamation was issued on the 19th of February, 1561. Ruding, Vol. I., p. 340.



pieces of *iiij*<sup>d</sup> ob. to be current for longer time than is limited in the said proclamation and after that time will not receive them into her mints, and therefore to require them to make haste to bring the same thither where they shall in short time receive new moneys therefore. And if any shall conceive any scruple or fear for the said speedy exchange of the base moneys they shall bring to the mint, you may assure them on her Majesty's behalf, that they shall not tarry over the time appointed in the said proclamation: For as upon the decreeing of the pieces of *ij*<sup>d</sup> *q*: the refiners were not so perfect as now by use they are whereby some delay grew in the exchange, so now the matter being brought to perfection, and we knowing that they are able to furnish, dare assure you there shall be no further protract of time than is mentioned in the said proclamation. So fare you well. From Westminster the xxxj of March 1561.

Your loving friends

Wynchester<sup>1</sup>      W. Northampton<sup>2</sup>      Arundel<sup>3</sup>  
 F. Bedford<sup>4</sup>      E. Clynton<sup>5</sup>      W. Howard<sup>6</sup>

When this was read to the York council, they agreed that although the proclamation had been already solemnly published, they would each of them declare abroad the effect of the privy council's letter as much as they might, with speed.<sup>7</sup>

#### THE YORK MINT OF KING CHARLES I.

Numerous silver coins of King Charles I. are extant, which were undoubtedly minted at York, but in what year of his reign they were struck has not been clearly ascertained. "It is said," Mr. Folkes states, "that a mint was erected at York when the great Earl of Strafford was President of the North, which office he entered upon about the beginning of the year 1629; if so,

<sup>1</sup> Sir William Poulett first Marquis of Winchester, K. G., Lord High Treasurer.

<sup>2</sup> William Parr, Marquis of Northampton, K. G.

<sup>3</sup> Henry Fitzalan, 14th Earl of Arundel, K. G., Lord Steward.

<sup>4</sup> Francis Russell, second Earl of Bedford, K. G.

<sup>5</sup> Edward Lord Clinton, afterwards Earl of Lincoln, K. G., Lord High Admiral.

<sup>6</sup> Wm. Howard, 1st Lord Howard of Effingham, K. G., Lord Chamberlain.

<sup>7</sup> Archives of York Corporation.

the pieces which were minted there in this reign are posterior to that time, and were not improbably coined, some of them at least, when the king was at York in his magnificent and memorable progress into Scotland in the year 1633.”<sup>1</sup> Mr. Hawkins observes that the York mint is said to have been established about 1629. He admits that of the operations of the mint we have few records except the coins themselves, and their dates can only be conjectured from the nature of the types. Tradition, he adds, assigns the earliest York coin to the year 1633, “and a comparison of types does not contradict the statement.”<sup>2</sup> These traditions, however, are wholly unsupported by historical evidence. Had a mint been erected at York, either at the commencement or at any subsequent period of Lord Strafford’s presidency of the North, or during any of the visits made by King Charles to the city previously to his breach with the Parliament, it is in the highest degree improbable that no notice of a circumstance of so much importance and notoriety should be found among the numerous existing records of the public proceedings and local transactions of the time. Yet such is the fact, and beyond the resemblance of types mentioned by Mr. Hawkins, we have no ground whatever for the supposition that a mint was in operation at York at any period of the reign of King Charles I. earlier than the year 1642.

It is well known that during several months of the spring and summer of 1642, King Charles chiefly resided and held his court in the city of York. On the 10th of June in that memorable year, the houses of lords and commons published a manifesto, in which, after charging their sovereign with intending to make war against his parliament, they declared that all persons who should bring in for the use of the parliament any ready money or plate, or undertake to furnish horse, horsemen, or arms, would render good and acceptable service to the commonwealth.<sup>3</sup> This was followed, within a week afterwards, by

<sup>1</sup> Folkes’s Table of English Silver Coins. 4to., 1736, p. 79. The king’s visit to York in 1633 was very short. He entered the city on Friday the 24th and left it on Tuesday the 28th of May.

<sup>2</sup> Hawkins, p. 176.

<sup>3</sup> Husband’s Collection, p. 339.

a counter-declaration from the king, stating that whosoever should bring in any sums of money or plate to assist him in his great extremity should have security for the same, and he should always look upon it as a service most affectionately and seasonably performed for the preservation of himself and his kingdom.<sup>1</sup>

The royal declaration, it is said, brought in at this time a great deal of money;<sup>2</sup> yet we find that a few weeks afterwards, the king made a private application for a loan, to the heads of the university of Oxford, and not only was his request promptly complied with,<sup>3</sup> but the several colleges of both universities loyally determined to devote their gold and silver plate to the service of their sovereign. On the 12th of July, information having been received in parliament that the plate and treasure of Oxford were ordered by Convocation to be sent to York for the king, the house of commons ordered that all the highways about Oxford should be watched to prevent the university from thus disposing of their treasures:<sup>4</sup> and in the ensuing month the commons having had intelligence that Mr. Cromwell had hindered the carrying off plate from the university of Cambridge to the value, as some reported, of £20,000, they made an ordinance for the indemnity of Oliver Cromwell Esquire, and the persons concerned with him therein, and for authorising him and them to make stay of all such plate belonging to the university as should be thereafter endeavoured to be carried to the king.<sup>5</sup>

In the mean time the king, with the obvious intention of making preparations for having money coined at York from the plate he expected to be supplied with, had despatched orders to London that the necessary means and appliances for the establishment of a mint should be sent to him from the Tower, and it

<sup>1</sup> "Published at his Court at York the 16th day of June 1642." Husband, p. 351.

<sup>2</sup> Ruding, Vol. I. p. 397.

<sup>3</sup> Extracts from the university and college registers, July 11, 1642. Folkes, p. 86.

<sup>4</sup> Commons' Journals, Vol. II. p. 683.

<sup>5</sup> Parliamentary History, Vol. XI. p. 388. It was reported to the House on the 22nd of August, that the plate of Magdalen College, Cambridge, was stayed as it was going to York. Commons' Journals, Vol. II., p. 730.

appears that M. Briot, the chief engraver of the royal mint, was not yet so much under the influence of the two houses as to shrink from obeying the commands of his sovereign. We learn from the journals of the house of commons, that on the 23rd of July the house was informed that a week or ten days previously a quantity of materials of all sorts belonging to the royal mint, which had been sent by M. Briot, were stayed at Scarborough by Mr. Jo. Stevens, captain of one of the ships of the fleet then at sea, and riding about that port; and directions were given that the committee of the navy should send for M. Briot to be examined respecting the business; and it was resolved that Captain Stevens had done well in stopping the materials, as no authority appeared for transporting them, and he was ordered to detain them in his hands until he received further directions from the house.<sup>1</sup> It is not very improbable that some of the articles intended by M. Briot to be conveyed to York, afterwards reached their destination, but we may reasonably conclude that the several circumstances I have mentioned would defeat the king's intention of setting up a mint at York previously to his final departure from the city, which took place on the 16th of August.

From York the king removed to Nottingham, and from thence to Shrewsbury, where in a speech to the people, on the 28th of September, he said, "I have sent hither for a mint, and I will melt down all my own plate."<sup>2</sup> This did not escape the notice of parliament. On the 5th of October the Commons ordered that the officers of the mint should be required not to suffer any officer, workman, or instrument belonging to the mint, or coining, or graving, to quit their charge or to be carried from thence without the authority of the house.<sup>3</sup> Notwithstanding this prohibition, the king, having obtained the assistance of the officers of the Aberystwith<sup>4</sup> mint, set up a mint at Shrewsbury, which, according to Lord Clarendon,

<sup>1</sup> Commons' Journals, Vol. II. p. 687.

<sup>2</sup> Husband's Coll., p. 623.

<sup>3</sup> Commons' Journals, Vol. II. p. 795.

<sup>4</sup> The Aberystwith mint was established about the year 1621, for the purpose of striking money from silver produced in the principality. Hawkins, p. 160.

“was more for reputation than use, as for want of workmen and instruments they could not coin a thousand pounds a week.”<sup>1</sup>

The Shrewsbury mint was discontinued before the close of the year, and was soon afterwards transferred to Oxford, the king and his court having then removed to that city. In the months of January and February 164 $\frac{2}{3}$ , all the colleges of the university, at the request of the king, delivered their plate to Sir William Parkhurst and William Bushell Esquire, officers of the mint at Oxford, to be there converted into money.<sup>2</sup>

At the same time that the king was thus enabled to set up a mint at Oxford, a similar establishment commenced its operations at York. “About the latter end of January, 164 $\frac{2}{3}$ , the king’s mint began to coin in Sir Henry Jenkins’s house<sup>3</sup> in the Minster Yard.” This is the earliest, and indeed the only historical notice I have discovered, of the existence of a mint at York in this reign.<sup>4</sup> It is contained in a small chronological work<sup>5</sup> published anonymously in the year 1664, the author of which is known to have been Christopher Hildyard Esquire, Recorder of Hedon and Steward of St. Mary’s Court at York. Mr. Hildyard was a resident in the city, and had arrived at

<sup>1</sup> History of the Rebellion, Vol. II. p. 56.

<sup>2</sup> Extracts from College Registers. Folkes, p. 87. Bushell was master of the Aberystwith mint.

<sup>3</sup> The same house in which King Charles had his printing press. It forms part of the buildings originally belonging to St. William’s College in the street now called College-street, near the East end of the Minster.

<sup>4</sup> Mr. Drake mentions coins of Charles I. “minted at York,” but he gives us no information on the subject of the mint. Eboracum, Appx. p. cviii.

<sup>5</sup> This is the title of the book, a copy of which, with MS. annotations, is in the British Museum: “A List or Catalogue of all the Mayors and Bailiffs, Lord Mayors and Sheriffs of the most ancient honourable noble and loyal City of York, from the time of King Edward the First until this present year, 1664, being the 16th year of the most happy reign of our most gracious sovereign lord King Charles the Second: together with many and sundry remarkable passages which happened in these several years. Published by a true Lover of Antiquity and a well-wisher to the prosperity of the City, together with his hearty desire of the restoration of its former glory splendour and magnificence. YORK, printed by Stephen Bulkley, 1664.” Harl. MS., No. 6115. The little work published at York in 1711 under the title of “The Antiquities of York City, &c. by James Torr, Gent.” is chiefly a reprint of Hildyard’s earlier compilation.

man's estate several years before the commencement of the civil war, and we may regard his testimony respecting an event which occurred at York in the year 1642, as that of a contemporary, and very probably an eye-witness.<sup>1</sup>

The existing York coins of King Charles I., which are by no means rare, are the only evidences that remain to us of the operations of his York mint. All other records of its proceedings have wholly disappeared. Unfortunately, none of these coins have the year of their mintage denoted upon them, like some which were struck at Oxford and other places, but from the number and variety of their types we may perhaps infer that as the York mint was first erected immediately after the Earl of Newcastle entered the city as Lieutenant General of the royal army in the North, its operations were continued during the whole time that he held the city for the King, namely from January 1642 $\frac{2}{3}$  to July 1644, when his defeat at the battle of Marston Moor, placed the government of York in the hands of the parliamentarians.

The denominations of coin struck at the York mint of King Charles I. were half-crowns, shillings, sixpences, and three-pences, all of the ordinary currency of the country, none of them being of the nature of siege-pieces like those of Pontefract, Newark, Chester, &c. The mint-mark by which they are distinguished is invariably a Lion passant guardant.

#### HALF-CROWNS.

1. Obv. CAROLVS D G MAG BRI FR ET HI REX. The king on horseback, a sword erect in his right hand.  
Rev. CHRISTO AVSPICE REGNO. Square shield of the royal arms between c and r.<sup>2</sup>
2. Obv. CAROLVS D G MAG BRIT FRAN ET HIB REX. The king on horseback. EBOR under the horse.

<sup>1</sup> Thoresby in his diary under the date of October 1682, mentions Mr. Hildyard, and describes him as "Lawyer Hilliard, an ingenious antiquary." Thoresby's Diary, by Rev. J. Hunter; Vol. I. p. 135. He was a younger brother of Sir Robert Hildyard of Winestead in Holderness, the first baronet of that antient Yorkshire family. He was born in 1615 and died in 1694.

<sup>2</sup> Hawkins, pl. 41, No. 495. The bust of the king and the square shield, Mr. Hawkins observes, are clearly after the model introduced by Briot in 1632. p. 176.

- Rev. CHRISTO AVSPICE REGNO. An oval shield crowned and garnished, between c and r crowned.<sup>1</sup>
3. Obv. CAROLVS D G MAG BRIT FRAN ET HIB REX. The king on horseback. EBOR under the horse.
- Rev. CHRISTO AVSPICE REGNO. Oval shield, crowned and garnished, grasped by the four paws of a lion.<sup>2</sup>

## SHILLINGS.

1. Obv. CAROLVS D G MAG BRI FR ET HI REX. King's bust crowned. XII behind the head.
- Rev. CHRISTO AVSPICE REGNO. Square shield and cross fleury. EBOR above the shield.<sup>3</sup>
2. Obv. CAROLVS D G MAG BRIT FRAN ET HIB REX. Bust and numeral as No. 1.
- Rev. CHRISTO AVSPICE REGNO. Oval shield, garnished and crowned. EBOR below the shield.<sup>4</sup>

The legends and devices of the several types of the smaller denominations of coin, present a general resemblance to those of the shilling.<sup>5</sup>

## THE YORK MINT OF KING WILLIAM III.

The last occasion of money being coined at York was in the reign of King William III. when the loss and inconvenience experienced by the public from the debased condition of the silver currency had become so grievous and intolerable, that a remedy was imperatively called for. "The ill state of the coin," was a prominent topic of the king's speech on opening parliament in November 1695, and a committee of the house of commons having recommended that all the clipped money should be recoined, the first statute that received the royal assent in this

<sup>1</sup> Hawkins, pl. 42, No. 497.

<sup>2</sup> Ibid, pl. 42, No. 498. Three specimens of this type are in the cabinet of the Yorkshire Philosophical Society, struck from dies slightly differing from each other. MS. Cat., p. 19, Nos. 10, 11, 12. Four other types are known, two of them being distinguished by the word EBOR under the horse.

<sup>3</sup> Hawkins, pl. 46, No. 526.

<sup>4</sup> Ibid, No. 527. A specimen is in the cabinet of the Y. P. S. MS. Cat., p. 28, No. 44. Three other types of shillings are described.

<sup>5</sup> Ruding, pl. 21, Nos. 7, 8, 9. Supp. pl. 5, No. 8.

session<sup>1</sup> authorised the Lords of the Treasury to commence immediate preparations for the issue of a new coinage, and placed in their hands the superintendence and direction of such Mints as his Majesty should erect for the greater ease of the remoter parts of the kingdom.

The towns selected for the establishment of provincial mints were York, Bristol, Chester, Exeter and Norwich, and in the month of May 1696, an order was made by the Treasury that persons should be properly instructed, and sent to take the management of the mints at those places. Early in June the requisite offices were fitted up, clerks employed, and the operations of the mints commenced; mills, presses, dies, and other implements of coining, being provided from the Tower mint.<sup>2</sup>

The York mint was set up in the Manor, under the superintendence of Francis Wyvill Esquire, as local mint-master.<sup>3</sup> The number of dies sent from the Tower for the use of the mint at York, was 146 for half-crowns, 190 for shillings, and 107 for sixpences.<sup>4</sup>

By an order of the Treasury made on the 2nd of July 1696, the country mints were authorised to receive clipt money and plate until the 4th of November following. The quantity of clipt money received at the York Mint during this interval was 212,410 oz. 10 dwts., and of plate 36,485 oz. 2 dwts., and the

<sup>1</sup> 7. & 8. Will. III. c. 1.

<sup>2</sup> I have obtained much information illustrative of this part of my notices, from an unpublished pamphlet in the British Museum, entitled "Brief memoirs relating to the silver and gold coins of England, with an account of the corruption of the hammered moneys and of the reform by the late grand coinage at the Tower and the five country mints in the years 1696, 1697, 1698, and 1699. By Hopton Haynes, Esq., Assay Master of the Mint, 1700." Lansd. MS., No. 801. folio.

<sup>3</sup> Francis Wyvill Esquire, usually called Major Wyvill, was the second son of Sir Christopher Wyvill of Constable Burton Baronet. He was receiver-general of the land-tax for Yorkshire, Durham, and Northumberland. He died on the 22nd of October 1717, in the 71st year of his age, at his residence in Blakestreet, and was buried in the church of St. Michael-le-Belfrey in York. Eborac. p. 341. "Towards Blakestreet where the church of St. Wilfrid stood, the late Major Wyvill built a fine house." Ibid, p. 337. This house is now occupied as offices by Messrs. Richardson and Gutch, Solicitors.

<sup>4</sup> Haynes' MS. p. 186.



coin into which it was converted amounted to £70,520. 8s. 4d. This sum was quickly dispersed in the adjacent counties, and proved to be a most seasonable, although far from an adequate supply.<sup>1</sup>

When Parliament assembled in October 1696, "the difficulties which had arisen upon the recoinage of the money" were mentioned in the speech from the throne. Again a committee was appointed by the Commons, and upon their report an act was passed "for further remedying the ill state of the coin." By this and a subsequent act,<sup>2</sup> it was provided that all such hammered silver money, clipped or unclipped, and wrought plate, as should be brought in after the 4th of November 1696, and before the 1st of July 1697, to any of his majesty's mints, should be there received at the rate of 5s. 4d. per ounce troy; and the king's receivers were authorized to accept such hammered silver coins in payment for taxes at the rate of 5s. 8d. the ounce. This measure caused the debased coin to flow more freely into the provincial mints. The following account shows that the operations of the York Mint, during the year 1697, greatly exceeded those of the preceding year:—

*Imported and coined at the York Mint in 1697.*

|   | GROSS WEIGHT |     |      |     | STANDARD WEIGHT. |     |      |     | NEW MONEY. |    |                |
|---|--------------|-----|------|-----|------------------|-----|------|-----|------------|----|----------------|
|   | lbs.         | oz. | dwt. | gr. | lbs.             | oz. | dwt. | gr. | £.         | s. | d.             |
| By private importers of hammered money, at 5s. 4d. per ounce .....    | 19,439       | 10  | 15   | 0   | 19,105           | 10  | 12   | 8   | 59,546     | 13 | 5              |
| By the King's receivers of hammered money, at 5s. 8d. per ounce ..... | 56,776       | 0   | 5    | 0   | 55,800           | 6   | 2    | 12  | 173,911    | 11 | 10             |
| By the undertakers, for wrought plate .....                           |              |     |      |     | 1,539            | 10  | 14   | 0   | 4,799      | 6  | 7              |
| By private importers of bullion .....                                 |              |     |      |     | 1,785            | 6   | 6    | 3   | 5,564      | 17 | 9              |
|   |              |     |      |     | 78,231           | 9   | 14   | 23  | 243,822    | 9  | 7 <sup>3</sup> |

According to the preceding statements, the whole of the money minted at York in the years 1696 and 1697, amounted to the sum of £314,342 17s. 11d.<sup>4</sup> The coins issued from the

<sup>1</sup> Haynes' MS., p. 182.

<sup>2</sup> 8. Will. III. c. 2. and 8. & 9. Will. III. c. 6.

<sup>3</sup> Haynes' MS. p. 167.

<sup>4</sup> Thoresby records in his diary, that being at York on the 5th November 1703, he visited Major Wyvill: "The Major being concerned in the late mint at York

provincial mints bear the date of the year in which they were struck, and those of each town are distinguished by the initial letter of its name. But the York mintage is remarkable for having impressed upon some of the coins of both years a capital Y, and upon others a small y, a distinction for which numismatists are unable to discover any satisfactory reason.<sup>1</sup>

Specimens are extant of all the York coins of this mintage,<sup>2</sup> the legends and devices upon each denomination being the same<sup>3</sup>:—

Obv. GULIELMVS III. DEI GRA. The king's head laureated, the letter Y or y under the bust.

Rev. MAG BR FRA ET HIB REX. 1696 or 1697. The arms of England, Scotland, France, and Ireland, in four separate shields, and of Nassau in the centre.

We learn from a report presented to the house of commons in April 1697 by a committee appointed to inquire into the miscarriages of the officers of the mint, that the proceedings of some of the provincial mints in the preceding year had not been creditable to those intrusted with the management of them. The report states that in the mints of York and Norwich there

when the old monies were called in, I desired an account of what monies were coined at the mint, which by his books he showed me was £312,520 Os. 6d." Vol. I. p. 447. Mr. Drake refers to a MS. collection of James West Esq., from the papers of Benjamin Woodnot, then comptroller of the coins, in which the York mint is put down thus: Silver, 67000lbs. 423oz. Tale, £209,011 6s. 0d. Eborac. Appx. p. cviii. Neither of these accounts agree with that given by Folkes, who states the quantity of hammered money and wrought plate brought to the York mint at 99,023lbs., which at £3 2s. the lb. weight, gives the total money coined £306,971 6s. Table of silver coins, p. 124. The particularity of the statement in Mr. Haynes's pamphlet entitles it to be regarded as the best authority.

<sup>1</sup> Thoresby's Museum contained two specimens of each year's mintage, those of 1696 being marked with the Roman Y, and those of 1697 with the small y. Hence he naturally but erroneously concluded that the larger letter denoted the former, and the smaller one the latter year. Ducatus, p. 386.

<sup>2</sup> Hawkins, pp. 229, 230. Specimens of those distinguished by the Roman Y, which are of great rarity, were in the late Mr. Cuff's collection.

<sup>3</sup> Ruding, pl. 36, Nos. 13, 18, 23. In the third edition of the Annals it is stated that crowns were minted at York on this occasion; and in a note, Vol. II. p. 233, the editor observes that "Drake has omitted the crown-pièce." But this is clearly a mistake. No crowns of the York mint are anywhere described.

lay dead very great sums of hammered money uncoined, by the negligence of the officers of those mints, and that in these two mints there were far greater deficiencies than in any of the other mints, viz. in that at York by above £2800, and in that of Norwich by above £500. The committee observe that the same men have two offices in the same mint, and some of such offices are or should be checks on the other, as melter and comptroller, as in the York mint, by which the committee was informed that the king lost in the melting down of the clipped and hammered money 2040 lbs. in weight in the standardizing.

In Mr. Haynes's pamphlet the mismanagement of the country mints is adverted to, and he mentions that in the case of Mr. Barton, the deputy comptroller of the York mint, against whom information was given of some abuses committed by him, the matter was heard by the House on the 4th of March, [1696,] and he had the good luck to have the accusation against him declared groundless. He ascribes the origin of these abuses to the circumstance of persons having been, upon the recommendation of great men, appointed to offices for which they were utterly unqualified. Some who were appointed, having upon being examined discovered their ignorance, had the honesty to confess their incompetence and withdraw. "Well had it been for the king," the writer adds, "if some who happened to be employed had used the like ingenuity. Then we had not been pestered with intricate and confused accounts, and the Redheads and the Bartons had been potters and pewterers to this day."<sup>1</sup>

This "is the last mint which has been erected in the city of York."<sup>2</sup>

#### THE YORK ARCHIEPISCOPAL MINT.

We possess no earlier evidence of the exercise of the privilege of coining by the Archbishops of York, than that which is afforded by the Sceatta of base silver attributed to Eadberht, who was king of Northumbria from the year 737 to the year 758. The reverse<sup>3</sup> of this coin displays a figure holding two

<sup>1</sup> Haynes' MS. p. 182.

<sup>2</sup> Eboracum, Appendix p. cviii.

<sup>3</sup> Hawkins, p. 38, pl. 8, No. 102.

crosses with the legend ECGBERHT and some indistinct characters resembling A R, which numismatists believe to represent the figure, name, and title of Egberht,<sup>1</sup> the king's brother, who was seventh archbishop of York, and died in the year 766, having held the see thirty-four years.

The stycas bearing the name of Eanbald, who was consecrated archbishop of York in the year 797, and was contemporary with the Northumbrian monarchs Heardulf and Eanred; those of Vigmund who succeeded to the see about twenty years after the death of Eanbald, and lived in the reigns of Eanred, Æthelred I., Redulf, and Osbercht; and those of his immediate successor Vulfhere who died in the year 892,<sup>2</sup> show that the York archiepiscopal mint was in operation until nearly the close of the ninth century.

The coins called Peter-pence<sup>3</sup> are said to have been struck at

<sup>1</sup> This accomplished prelate was the friend of the venerable Bede; the founder and first director of the famous school and library at York; and the patron of the celebrated Alcuin, who after Egberht's death was made superintendent of the school, and librarian.

<sup>2</sup> See p. 197 ante.

<sup>3</sup> A remarkable discovery of a hoard of these coins was made in the vicinity of York about half a century ago. In September 1807 a leaden box, containing about 270 silver coins and some fragments of silver ornaments weighing about 2lbs., was turned up by the plough in a field near the inn called Lobster-house which is at the eighth milestone on the high road from York to Malton. The field is within the parish of Bossall, which, at the time the treasure was concealed or lost, formed part of the great forest of Galtres. In an account of this discovery, sent by Robert Belt Esquire, of Bossall, to the Gentleman's Magazine for December 1807, it is stated that most of the coins appeared to have been struck at the mint of St. Peter at York, but several of Alfred, Edward the elder, and Athelstan, were mixed with them; that they had the name of the master of the mint, or of the city of York, on the reverse; and that they were in perfect preservation, seeming almost fresh from the mint. The magazine gives an engraving of two specimens which are obviously identical with the types No. 135 and No. 137 of plate 10, in Mr. Hawkins's work. The first, Obv. An open hand. Rev. A device having a distant resemblance to the Carolus monogram of some of the Cuerdale coins: and the other, Obv. A hammer. Rev. A bow and arrow. The legends of these types, Mr. Hawkins remarks, are so rude and blundered that it can scarcely be asserted that either Saint Peter, or York, is intended, but upon the whole he considers those on the reverse "to be blundered attempts at EBORACL," and he thinks "the types are closely linked with those of the coins which undoubtedly bear the name of Saint Peter." Hawkins, p. 48. We may further gather from Mr. Belt's description, that some of the coins found at Bossall

York during the earlier part of the tenth century, and there seems little doubt that they were the production of the archiepiscopal mint. Mr. Ruding observes that "they were probably coined by the authority of the see, although the inscriptions only signify that they were of this mint, without specifying the person by whose order they were struck."<sup>1</sup> Soon after the accession of Æthelstan in the year 925, laws were made for the regulation of mints, by which the coining of money that did not bear the name and effigies of the sovereign was forbidden, and it is said that the same laws prohibited any other ecclesiastical mints from being worked than those of Canterbury and Rochester. We therefore cannot be surprised that no Anglo-saxon coin of later date has hitherto appeared, bearing the name or other distinguishing mark or badge of an archbishop of York.

At the commencement of the Norman æra the York archiepiscopal mint was undoubtedly in operation. Thomas, the nephew of the Conqueror, who was archbishop of York from the year 1070 to the year 1101, "was seized of his mints, which he enjoyed not only during part of the reign of William I. but likewise in the time of his son Rufus."<sup>2</sup>

In the reign of King Henry I. archbishop Gerard, the immediate successor of archbishop Thomas, was impleaded by Odo, sheriff of Yorkshire, who disputed the prelate's right to hold a court for the trial and punishment of his moneymen or others committing offences in his own mint. The archbishop took his cause before the king, and shewed his seizin and the right of the church of Saint Peter of York, and the king's writ was issued to the sheriff, allowing and confirming all the privileges of the archbishop and the church.<sup>3</sup> In other instances the legality of the prelatial jurisdiction was contested, but without success. It was probably some impediment offered by the secular authorities to his exercise of the privilege of coining, that occasioned archbishop Walter de Grey in the 2nd

were the same as No. 132. pl. 10. of Hawkins, which presents distinctly the legend *SCI PETRI* on the obverse, and *EBORACE* on the reverse.

<sup>1</sup> Annals, Vol. II. p. 234.

<sup>2</sup> Ruding, Vol. II. p. 234.

<sup>3</sup> Placita de quo warranto. Edw. I. p. 198.

year of Henry III. to obtain the king's mandates to the sheriff of Yorkshire and the mayor of York to cause the archbishop to have fully and freely his money dies in the city of York, in the same manner as his predecessors, archbishops of York.<sup>1</sup>

In the succeeding reign Archbishop William Wickwane was required to show by what authority he claimed to have *duos cuneos monetales in civitate domini regis Eboraci*, to which the archbishop pleaded that he claimed such dies upon the ground that he and all his predecessors from time immemorial had been seized of such privileges. For better proof of his claim he set forth the circumstances attending the proceedings against archbishop Gerard in the reign of King Henry I.: and as an additional plea, he alleged that all his predecessors were used to have the third die of all the dies which the king had in the city of York. The proceedings against archbishop Wickwane terminated in his favour by the verdict of a jury of sixteen at the assizes for Yorkshire in the 9th year of King Edward I.<sup>2</sup>

Mandates are upon record of the reigns of King Edward III. and his successor King Richard II., for the delivery of dies to successive archbishops of York, in which the number of dies is uniformly thus specified,—*duos cuneos monetales pro cambio suo Eborum*.

In a comptus of the temporalities of the see of York during a vacancy which occurred in the 47th year of King Edward III., the *firma cunei monete infra palacium* for one year was returned at one hundred shillings; and in the same account the collector claimed 6s. 8d. for his fee as *examinator monete infra palacium*.

Although the continued exercise of the privilege of coining by the prelates of the see of York is thus clearly traced from the conquest to the close of the fourteenth century, no evidence of the operations of the archiepiscopal mint is obtained from any coins that issued from it of an earlier date than the reign of King Henry VI. This fact seems the more inexplicable when we discover that a century and a half previous to that reign, coins which proceeded from the mint of the Bishops of Durham were

<sup>1</sup> Claus. 2. Hen. III. m. 6. Ebor. App., p. cvi.

<sup>2</sup> Placita de quo warranto. Edw. I. p. 198.

impressed with peculiar marks to denote by what prelates they were struck,<sup>1</sup>

The earliest well authenticated coin, struck at the archiepiscopal mint of York subsequently to the Norman conquest, which is now known, is a farthing of King Henry VI. thus described by Ruding<sup>2</sup> :—

Obv. H D G AN Z FRA . . IE REX. MM. a cross. C on the right side of the king's neck, I on the left.

Rev. CIVITAS EBORACI. Cross fourchy and pellets.

The letters C. I. are interpreted by numismatists to be the initials of Cancellarius Johannes Kemp, who was archbishop of York from the year 1425 to the year 1453.

Another farthing is described, of the same type, with a key under the king's bust, but without initials.<sup>3</sup>

Of the succeeding archbishop, William Boothe, no coins are extant, but from the time of his death, which happened in the early part of the reign of Edward IV., for nearly a century afterwards, we have an uninterrupted series of York archiepiscopal coins.

#### Archbishop GEORGE NEVILLE, 5th to 16th EDWARD IV.

##### PENNIES.

1. Obv. EDWARD DI GRA REX ANGL. On the right of the king's bust G, on the left a key. MM. a rose.

Rev. CIVITAS EBORACI. Cross and pellets; a quatrefoil in the centre of the cross.<sup>4</sup>

2. Obv. EDWA . . DI GRA . . . . GL. On the right of the bust, a key; on the left, a rose. MM. a rose.

Rev. Same as No. 1.<sup>5</sup>

<sup>1</sup> See Noble's Dissertations upon the mint and coins of the Epicopal-Palatines of Durham, p. 16. The author of this work has elsewhere stated his opinion that certain marks upon some of the York coins of Edward I. and some subsequent kings, were prelatical cognizances, but the validity of this conclusion is questioned by other authorities. See a communication from Sir Henry Ellis; Numism. Journal, Vol. II. p. 231.

<sup>2</sup> Annals, Vol. II. p. 371. Supp. pl. 3, No. 10.

<sup>3</sup> Ibid, No. 11.

<sup>4</sup> Ruding, Supp. pl. 3, No. 21. Three other specimens of the same type are described, one having MM. a cross patée fitchée (Ibid, No. 22), another, a cinquefoil, and the third a lis. The two latter are in the British Museum. Hawkins, p. 116.

<sup>5</sup> Ruding, Supp. pl. 3, No. 24.

## Archbishop LAWRENCE BOOTH, 16th to 20th EDWARD IV.

The British Museum possesses a single specimen of a penny, similar in type to those of Archbishop Nevile, which having B on one side of the king's bust, and a key on the other, is assigned to this prelate.<sup>1</sup>

Archbishop THOMAS ROTHERHAM,<sup>2</sup> 20th EDWARD IV. to 15th HENRY VII.PENNY of EDWARD IV.<sup>3</sup>

1. A York penny of the usual type having T on the left, and a key on the right of the bust, is assigned to this prelate.<sup>4</sup>

## PENNY of RICHARD III.

2. Obv. RICARD DI GRA REX ANG. On one side of the bust T, on the other, a key. MM. a boar's head.<sup>5</sup>

Rev. CIVITAS EBORACI. Cross and pellets; a quatrefoil in the centre.

## PENNY of HENRY VII., first coinage.

Obv. HENRIC DI GRA REX ANG. Front face and open crown, T on each side of bust. MM. a rose.

Rev. CIVITAS EBORACI. Cross and pellets, quatrefoil in the centre.<sup>6</sup>

<sup>1</sup> Hawkins, p. 116.

<sup>2</sup> The name of Archbishop Rotherham's mint-master was Thomas Graa, or Gray, a goldsmith at York. He was sheriff of the city in 1488, elected an alderman in March 1492, was one of the representatives of the city in the parliament of the 11th of Henry VII., and lord mayor in 1497.

<sup>3</sup> Ruding has engraved a York coin of Edward IV., which he denominates a groat, and assigns to the mint of Archbishop Rotherham from its having the letter R on one side of the king's bust. (Annals, Vol. II. p. 371. Supp. pl. 3, No. 13.) Mr. Hawkins describes this coin as a thick piece the size of a half-groat, but weighing 76 grains, and the R, he observes, is *perhaps* for Archb. Rotherham. As it seems most probable that neither groats nor half-groats were struck in the York archiepiscopal mint earlier than the reign of Henry VII., I have not included this specimen among the coins of Archbishop Rotherham. Indeed, Mr. Ruding in another part of his Annals, states that Wolsey was the only prelate who ventured to issue groats from his mint. Vol. I., p. 306.

<sup>4</sup> Hawkins. One specimen is in the British Museum, a second was in the late Mr. Cuff's collection.

<sup>5</sup> British Museum. Hawkins, p. 119, pl. 27, No. 359. Another specimen of this type, and a third with MM. a rose, were in Mr. Cuff's collection.

<sup>6</sup> Hawkins, pl. 28, No. 370.



Another specimen of this coinage has T on one side of the bust, and a key on the other :<sup>1</sup> and others have a fleur de lis in place of the key on the obverse, and **✠** in the centre of the cross on the reverse.

Archbishop THOMAS SAVAGE,<sup>2</sup> 16th to 23rd HENRY VII.

HALF-GROAT of HENRY VII., second coinage.

Obv. HENRIC DI GRA REX AGL Z F. Full face and arched crown, a key on each side of the bust. MM. a martlet on both sides.

Rev. POSVI DEV ADIVTORE MEV, outer circle.  
CIVITAS EBORACI, inner circle. Cross and pellets.<sup>3</sup>

HALFPENNY of same coinage.

Obv. HENRIC DI GRA REX A. Under the bust, a key.

Rev. CIVITAS EBORACI. Cross and pellets.<sup>4</sup>

HALF-GROAT of HENRY VII., third coinage.

Obv. HENRIC VII. DI GRA REX A. Profile and arched crown. MM. a martlet.

Rev. POSVI DEV ADIVTORE MEV. Cross and shield: two keys under the shield.<sup>5</sup>

PENNY of same coinage.

Obv. HENRIC DI GRA REX ANG. The king seated upon his throne, crowned, holding a sceptre and orb.

Rev. CIVITAS EBORACI. Cross and shield, two keys under the shield.<sup>6</sup>

<sup>1</sup> In Mr. Cuff's collection. *Very rare.*

<sup>2</sup> I have adopted the suggestion of Sir Henry Ellis, who is "inclined to appropriate the half-groats of Henry VII., having a key on each side of the neck, and the pennies with a key on each side of the shield, to Archbishop Savage, because we know the distinctive marks of his predecessors and successors till the abolition of the privilege." See Numismatic Soc. Proc. 1837—38, p. 154.

<sup>3</sup> Ruding, pl. 6, No. 10. Hawkins, pl. 29, No. 375.

<sup>4</sup> Ruding, pl. 6, No. 26. Hawkins, pl. 29, No. 377.

<sup>5</sup> Ruding, pl. 6, No. 23. Hawkins, pl. 29, No. 386. Y. P. S., three specimens. MS. Cat. p. 54, Nos. 20, 21, 22.

<sup>6</sup> Ruding, pl. 6, No. 11. Hawkins, pl. 29, No. 389.

Archbishop CHRISTOPHER BAYNBRYGGE, 24th HENRY VII. to  
6th HENRY VIII.

HALF-GROATS.

1. Obv. HENRIC VIII. DI GRA REX AL. Profile and arched crown. MM. a martlet, on both sides.  
Rev. POSVI MEV ADIVTOR MEV. Cross fleury and shield. X on the right, B on the left of the shield.<sup>1</sup>
2. Obv. HENRIC VIII. DI GRA REX AL'Z. MM. a cinquefoil.  
Rev. CIVITAS EBORACI. Cross and shield; two keys under the shield, a cardinal's hat in base.<sup>2</sup>

Archbishop THOMAS WOLSEY, 6th to 22nd HENRY VIII.

HALF-GROAT, first coinage of HEN. VIII.

1. Obv. HENRIC VIII. DI GRA REX AGL. Profile and arched crown. MM. a cross voided.  
Rev. CIVITAS EBORACI. Cross fourchy and shield. T on the right and W on the left of the shield; below, a cardinal's hat between two keys.<sup>3</sup>
2. Obv. HENRIC VIII. D G R AGL Z FR. Device and MM. same as No. 1.  
Rev. CIVITAS EBORACI. The shield between T and W; a cardinal's hat below.<sup>4</sup>

GROATS, second coinage of HEN. VIII.

1. Obv. HENRIC VIII. D G R AGL Z FRANC. Profile and arched crown. MM. a plain cross, on both sides.  
Rev. CIVITAS EBORACI. Cross fourchy and shield: the shield between T and W; a cardinal's hat below.<sup>5</sup>

<sup>1</sup> Ruding, Supp. pl. 4, No. 15. "Clearly struck by Bainbridge." Hawkins, p. 129. A specimen of this type is in the possession of the author.

<sup>2</sup> Ruding, pl. 7, No. 5 and 7. Hawkins, p. 129. As this coin has merely the cardinal's hat without any initials, it was most probably struck by archbishop Bainbridge, who being the first cardinal, initials might be thought unnecessary. A specimen is in the cabinet of the Y. P. S. MS. Cat., p. 54, No. 25.

<sup>3</sup> Hawkins, pl. 30, No. 392. Ruding, Supp. pl. 4, No. 16.

<sup>4</sup> Cabinet of Y. P. S. MS. Cat., p. 55, No. 26.

<sup>5</sup> Cabinet of Y. P. S. MS. Cat., p. 44, No. 47.

2. Obv. HENRIC VIII. D G R AGL Z FRA.  
 Rev. CIVITAS EBORACI. Device and MM. on obverse and reverse, same as No. 1.<sup>1</sup>

HALF-GROAT, same coinage.

1. Obv. HENRIC VIII. DI GRA REX AGL. Profile and arched crown. MM. a lis, on both sides.  
 Rev. CIVITAS EBORACI. The shield between T and W ; a cardinal's hat between two keys, below.<sup>2</sup>
2. Obv. HENRIC VIII. D G R AGL Z R. Profile and arched crown. MM. a cross, on both sides.  
 Rev. CIVITAS EBORACI. The shield between T and W ; a cardinal's hat below.<sup>3</sup>

The groat types attributed to Archbishop Wolsey are peculiarly interesting. It is well known that on his being impeached in parliament, one of the charges brought against him was, that of his pompous and presumptuous mind, he had enterprised to join and imprint the cardinal's hat under the king's arms in the king's coin of groats made at the city of York, which like deed had not been seen to have been done by any subject within the realm before this time.<sup>4</sup> "At first sight," Mr. Ruding observes, "it appears that the offence consisted in placing the cardinal's hat upon the money ; but this could not have been the case, as the smaller coins upon which it was also impressed are not noticed. His fault seems to have been the presuming to strike larger coins than his predecessors had done, and the daring to mark them as his own coinage by the stamp of the cardinal's hat ; for he is, so far as I have been able to discover, the only prelate who ventured to issue groats from his mint."<sup>5</sup> But it

<sup>1</sup> Ruding, pl. 7, No. 16. One specimen in the British Museum.

<sup>2</sup> Ruding, Supp. pl. 4, No. 16.

<sup>3</sup> Hawkins, pl. 30, No. 397. Ruding, pl. 7, No. 19.

<sup>4</sup> Parl. Hist., Vol. III., p. 52. The poet has expressed the charge more forcibly and intelligibly in two lines :

That out of mere ambition you have caus'd  
 Your holy hat to be stamp'd on the king's coin.

Henry VIII., Sc. ii., Act 3.

<sup>5</sup> Ruding, Vol. I., p. 306.

is questionable whether Wolsey did really presume to issue groats from his own mint. In the contract by which the cardinal archbishop appointed William Wright, citizen and alderman of York, to be master and worker of his monies of silver in his mint at York, the only sorts of money agreed to be coined are half-groats and half-pennies.<sup>1</sup> Possibly the charge against Wolsey may have arisen from his having unlawfully interfered with the coinage of the king's mint at York. The same arrogant spirit that prompted the *Ego et rex meus* might lead to his causing the ensigns of his rank of cardinal to be associated with the arms of the sovereign upon the coins struck, not at the archiepiscopal, but at the royal mint. It is remarkable that all the known specimens of the York groat of this coinage have the initials of Wolsey and the cardinal's hat impressed upon them, but are without the keys, which were at this period the usual symbol of the archbishop's mint.

Archbishop EDWARD LEE. 23rd to 36th HENRY VIII.

HALF-GROAT, second coinage of HEN. VIII.

Obv. HENRIC VIII. D G R AGL Z FR. Profile and arched crown. MM. a key.

Rev. CIVITAS EBORACI. Cross fourchy and shield; E on the right of the shield, L on the left.<sup>2</sup>

PENNY, same coinage.

Obv. HENRIC VIII. D G R AGL Z FR. Profile and arched crown. MM. effaced.

Rev. CIVITAS EBORACI. Cross fourchy and shield between E and L.<sup>3</sup>

HALF-PENNY, same coinage.

Obv. H D G ROSA SIE SPIA. Bust, full face, between E and L. MM. a key.

Rev. CIVITAS EBORACI. Cross and pellets.<sup>4</sup>

<sup>1</sup> Ruding, Vol. II., p. 235. The contract is dated May 1st, 1523. William Wright was sheriff of York in 1511, and lord mayor in 1518 and 1535.

<sup>2</sup> Ruding, pl. 7, No. 21. A specimen is in the possession of the author.

<sup>3</sup> This penny is in the cabinet of the Y. P. S. MS. Cat. p. 76, No. 114. I do not find it described elsewhere.

<sup>4</sup> Ruding, Supp. pl. 4, No. 19. Hawkins, p. 132.

Archbishop Lee was the last of the York prelates who exercised the privilege of coining.<sup>1</sup> He died in September, 1544. The third coinage of Henry VIII. took place in the year 1542, but no specimens are known of this or of any subsequent coinage, bearing marks to denote that they were struck in the archiepiscopal mint.

Mr. Drake, describing the antient foundation of St. Leonard's hospital, says "after the dissolution, our archbishops erected their mint in this place, from whence it was called Mint Yard, a name which it retains at this day."<sup>2</sup> Saint Leonard's hospital was surrendered in December 1539. The death of archbishop Lee took place within five years afterwards, and as it is extremely doubtful whether any coins issued from the archiepiscopal mint during this interval, Mr. Drake's account of the origin of the name of Mint Yard is scarcely satisfactory. Perhaps it was the royal, and not the archiepiscopal mint, whose operations were carried on within the precincts of Saint Leonard's hospital, after it fell to the crown. At Canterbury King Henry VIII. after the dissolution, placed his mint in a little court which had been used as an almonry by the monks of the cathedral, and it still bears the name of Mint Yard.<sup>3</sup>

#### THE LOCALITY OF THE ANTIENT ROYAL MINT AT YORK.

Whether any permanent building, designated the Mint, existed at York anterior to the reign of Edward I., I am unable to ascertain.

A writer upon the subject of coinage has expressed an opinion, that in the infancy of the mint, when the demand for coin was very limited, it is more than probable that the whole processes of the coinage were exercised in one apartment, and that the principal officers of the mint accompanied the sovereign from place to place in his dominions and actually superintended the fabrication of the coin at the mints of the towns where he sojourned.<sup>4</sup>

<sup>1</sup> Hawkins, p. 131. Ruding, Vol. II., p. 236.

<sup>2</sup> Eboracum, p. 337.

<sup>3</sup> Gostling's Canterbury, p. 172.

<sup>4</sup> Cyclop. Brit., Art. Coinage.

Possibly this may have been the mode of proceeding whilst the silver penny was the only coin fabricated, but it could scarcely continue after the government had determined that new denominations of money should be struck, not only at the Tower mint, but at York and other places in the provinces. One of the conditions of the contract made by King Edward I. in the year 1279 with William de Tournemire, his principal mint-master, was that at each provincial mint he should have under him a master of the mint, he bearing the charges of such mint-master as well as of the keeper of the bullion, [*custos platarum*,] of the assistant of the melting-house, and of all other persons employed by him; and it was especially agreed that a house convenient for the business of working should be provided by the king.<sup>1</sup> We cannot doubt that the king performed his part of the contract, and that on this occasion permanent buildings were either erected or appropriated for the purposes of the royal mint at York. Indeed the operations of this establishment were now of so extensive and important a character, that they could not have been conveniently carried on without such accommodation. We find it upon record that during the latter years of the reign of King Edward I. whilst he was engaged in the prosecution of his Scottish wars, large sums of money coined at York were sent from thence to the North for the payment of the soldiers and the maintenance of the royal household. In December 1299, the sum of £3000 was transmitted from York to Berwick-upon-Tweed, where Edward and his newly married queen were then staying.<sup>2</sup> In June 1300, a large quantity of the base or counterfeit coin, called Pollards, which was lying in the king's exchequer at York, having been received previously to the issuing of the proclamation by which the circulation of them was prohibited, was ordered to be delivered to the merchants of the company of the Friscobaldi of Florence, for the purpose of being melted down, partly at York, and partly at Newcastle upon Tyne.<sup>3</sup> In the following month the sum of

<sup>1</sup> Ruding, Vol. I., p. 193.

<sup>2</sup> Liber Quotidianus, p. 48.

<sup>3</sup> Ibid, p. 67. The society of Friscobaldi of Florence, was one of the rich Italian companies which were settled in this country in the reign of Edward I., and were

1000 marks was conveyed from York to Lochmaben for the expenses of the king's army in Scotland.<sup>1</sup> In August, immediately after the celebrated siege of Caerlaverock, the sum of £1000 was sent to the Court there for the use of the royal household ;<sup>2</sup> and in September two sums of the same amount were sent from York for the like purpose, one of them being transmitted to Carlisle, and the other to Rose Castle near that city.<sup>3</sup> At a later period of the same year a further sum of £1000 was dispatched from York to the king at Carlisle.<sup>4</sup> In the 32nd year of his reign, King Edward I. transmitted the large sum of £4000 from York to Skamskynell in Scotland.<sup>5</sup> The few transactions of which records are thus preserved must necessarily have formed but a small proportion of the actual business of the York mint at this stirring period.

Although no earlier evidence of the fact has hitherto appeared, the document I proceed to quote clearly shows that the royal Mint of York, in its substantial and permanent form, stood within the precincts of the castle of York, which, as Mr. Drake observes, whilst it was in the king's hands, was the storehouse and magazine for his revenues in the north.<sup>6</sup> In the 27th year of King Edward III. a royal mandate was addressed to the sheriff of Yorkshire, stating it to be the king's pleasure that the money struck from gold and silver dies in the castle of York should be made in the same manner as at the mint in the tower of London ; and that Henry de Brussels, the master of the tower mint, and William Hunt, keeper of the exchanges in the city of York, were authorised to put into repair, and if necessary rebuild the houses for the works of the mint in the castle of York which stood in need of repair ; and requiring the sheriff to assign to the same officers, houses and places within

bankers as well as merchants. From the passage quoted in a preceding page from Lowndes's Essay, p. 94, it might perhaps be erroneously implied that "one Friscobald and others from Florence" were artists or artificers brought from Italy by the king. See Frost's Notices relative to the early history of Hull, p. 60.

<sup>1</sup> Lib. Quot., p. 65.    <sup>2</sup> Ibid, p. 68.    <sup>3</sup> Ibid, p. 71.    <sup>4</sup> Ibid, p. 83.

<sup>5</sup> See Notes respecting the transmission of treasure in the former half of the 14th century : By the Rev. Joseph Hunter. York Volume of the Archæol. Institute.

<sup>6</sup> Eboracum, p. 286.

the castle of York suitable for the purposes of the mint, and also *quandam domum fortem in eodem castro in qua dicte monete secure custodiri poterunt.*<sup>1</sup>

After the death of Edward III. I find no further notices respecting the mint in York castle until the great coinage was undertaken in the year 1423, when Bartholomew Goldbeter was appointed to take charge of the royal mint at York, and it was discovered that the buildings appropriated to the purposes of the mint had become much dilapidated. Soon after Goldbeter came to the city he reported to the lords of the council that the houses and buildings *pro factura monete Regis infra castrum Ebor'* were so ruinous and wanted so much repair that they were not fit for the purpose; and on the 8th of April 1423, a writ was issued to the sheriff of the county commanding him to cause them to be sufficiently repaired and amended, or if necessary new buildings to be erected, at the discretion of the mint-master. The sheriff was authorised to defray out of the issues of the county the expences to be incurred, which were to be allowed to him in the account he should render to the Exchequer. The writ was executed and an account duly rendered by Sir William Haryngton who was then sheriff of Yorkshire.<sup>2</sup> The original compotus,<sup>3</sup> which is preserved among the public records, contains so much information illustrative of this part of my subject, that I am induced to print it at length:—

PARTICULE COMPOTI WILLIELMI HARYNGTON CHEVALIER NUPER  
VICCOMITIS EBORUM DE CUSTUBUS ET EXPENSIS PER IPSUM  
FACTIS CIRCA REPARATIONEM ET EMENDACIONEM DIVERSO-

<sup>1</sup> Fædera, new ed. Vol. III. part 1, p. 261. Writ tested at Westminster 18th July, 27 Edw. III. 1353. This is probably the mandate referred to by Drake. Eborac. Appendix, p. cviii.

<sup>2</sup> Sir William Haryngton, whose Yorkshire seat was at Brierly in the West Riding, was sheriff of the county three times in the reigns of Henry IV. and Henry V., and twice under Henry VI. He was one of the English commanders at the siege of Harfleur and the battle of Agincourt, and was made K.G. by King Henry V.

<sup>3</sup> I am indebted to the wonted kindness of the Rev. Joseph Hunter for having referred me to this curious document.



RUM (*sic*) DOMORUM PRO FACTURA MONETE REGIS INFRA  
CASTRUM REGIS EBOR' DE AVISAMENTO CONSILII SUI ORDINATAM PER BREVEM REGIS DE MAGNO SIGILLO SUO DATUM  
viii° DIE APRILIS ANNO PRIMO PREFATO NUPER VICECOMITI  
INDE DIRECTUM.

In primis, in maresmio<sup>1</sup> empto pro nova edificatione domorum infra castrum Ebor', videlicet, pro ccc peccis tam majoribus quam minoribus pro habitacione factoris monete et famulorum suorum ..... xii<sup>li</sup>. vj<sup>s</sup>. viij<sup>d</sup>.

Item, solutis pro sarracione xxx rodarum maeremii pro dictis domibus, pro roda iij<sup>s</sup>. iij<sup>d</sup>..... c<sup>s</sup>.

Item, in cxx plauncheo<sup>2</sup> (*sic*) emptis pro eisdem domibus, precii pecie iij<sup>d</sup>..... xl<sup>s</sup>.

Item in iij<sup>xx</sup>. waynscottis<sup>3</sup> pro ostiis floris et fenestris et aliis necessariis dictarum domorum reparandarum et stacciis<sup>4</sup> de eis faciendis, precium cujuslibet waynscote, v<sup>d</sup>. ..... xxxiij<sup>s</sup>. iij<sup>d</sup>.

Item, solutis pro sarracione iij<sup>xx</sup>. xij tractuum<sup>5</sup> in eisdem waynscottis, pro quolibet tractatu ob. q<sup>s</sup>. ..... v<sup>s</sup>. ix<sup>d</sup>.

Item, solutis pro carragio lvi carectarum predicti mearesmii carriati de ecclesia Sancti Jacobi<sup>6</sup> usque in gardinum dicti castri pro quolibet carecto, iij<sup>d</sup>..... xvii<sup>s</sup>. viij<sup>d</sup>.

<sup>1</sup> *Maresmio*—*Maeremii*. Building timber.

<sup>2</sup> *Plauncheo*. Plancha. A plank. Sawn timber. "Item, planchæ de quercu et de fraxino." *Fynchale Compotus*, A. D. 1307.

<sup>3</sup> *Waynscottis*. Waynscots were oak boards chiefly used for covering or lining the inner walls of buildings. Hence the modern term *Wainscot* for the panneling now used for the same purpose. "In vj waynscotts emptis apud Steresbrugge ij<sup>s</sup>. iij<sup>d</sup>." *Burcester Compotus*, 3rd and 4th Hen. VI. "Item, paid at Ely fayre for xij bords of waynscotte, xij<sup>s</sup>." *Hengrave Accounts*, 1527. The term is said to be derived from the German, *Wandschotten*, composed of the old Teutonic word, *Wand*, a wall, and *Schotten*, to defend. *Kennett's Paroch. Antiq.*, Vol. II. p. 247. In 1499, 100 Wayne-scotts were given by Thomas Chapman "towards the selyng of the wallez" of the Common Hall at York. Corp. Archives.

<sup>4</sup> *Stacciis*. Probably from *Staca*, Palus. (Dueange.) A stake.

<sup>5</sup> *Pro sarracione iij<sup>xx</sup> xij tractuum*. The word *tractus* is used in early accounts to signify the traces by which horses draw a cart or waggon. In the present compotus it obviously means the narrow lengths into which the waynscots were sawn for different parts of the doors and windows. Thus *trabes*, a joist or beam, *a traho, quia de una parte parietis ad aliam trahitur*. Prompt. Parv., p. 196.

<sup>6</sup> The church of St. James on the Mount without Micklegate Bar.

Item, in x M<sup>l</sup>.cccc. de *Thakteyle*<sup>1</sup> emptis pro tectura dictarum domorum, precium M<sup>l</sup>. cum carriagio x<sup>s</sup>. x<sup>d</sup>. . . . . cxiiij<sup>s</sup>. viij<sup>d</sup>.

Item in iiiij<sup>xx</sup>. x. *Rygteyle*<sup>1</sup> emptis pro hujusmodi opere.

Item in xiiij M<sup>l</sup>. de *Walteyle*<sup>1</sup> emptis pro eisdem, precium M<sup>l</sup>. vj. viij<sup>d</sup>. . . . . iiiij<sup>ii</sup>. viij<sup>s</sup>. viij<sup>d</sup>.

Item in iij M<sup>l</sup>.c. . . . ere vocat *naulat*? precium C. xij<sup>d</sup>. . . xxxj<sup>s</sup>.

Item in ij M<sup>l</sup>.cccc *doubylspykynges*<sup>2</sup> emptis pro eisdem domibus, precium C<sup>ne</sup>. iiiij<sup>d</sup>. ob. . . . . viij<sup>s</sup>. vij<sup>d</sup>. ob.

Item in M<sup>l</sup>.cccc et lx de *myddylspykynges*<sup>2</sup> emptis causa predicta, precii C<sup>e</sup>. ij<sup>d</sup>. ob. q<sup>a</sup>. . . . . vij<sup>s</sup>. xj<sup>d</sup>.

Item in vj M<sup>l</sup>. Dcc et lx *Stanbrod*<sup>2</sup> emptis pro eodem opere, precii C<sup>e</sup>. i<sup>d</sup>. ob. q<sup>a</sup>. . . . . ix<sup>s</sup>. x<sup>d</sup>.

Item in ij M<sup>l</sup>.cc de *Scotseme*<sup>2</sup> emptis, precii C<sup>l</sup>. j<sup>d</sup>. ob. q<sup>a</sup>. . iiiij<sup>s</sup>. ij<sup>d</sup>. ob.

Item in C *dyshe naylles* emptis pro eodem . . . . . ij<sup>s</sup>.

Item in xxx metys<sup>3</sup> et dimy calcis emptis pro hujusmodi opere, precii cujusdam mete xvj<sup>d</sup>. cum [carriagio] . . . . . xl<sup>s</sup>. viij<sup>d</sup>.

Item in iiiij<sup>xx</sup>. xix sumagiis sabuli<sup>4</sup> emptis pro hujusmodi opere . . . . . viij<sup>s</sup>. iiiij<sup>d</sup>.

<sup>1</sup> *Thakteyle*—*Rygteyle*—*Walteyle*. The tiles that were made to be laid upon the slope of the roof were called Thaktiles. The Rygteyle was that which was made to lay upon the ridge of the roof, and was sometimes called Rofetye or Crestyle. The Walteyle, as its name indicates, was used in the construction of the walls, being the same as that which a century later was termed brick. There can be no doubt that all these tiles were manufactured of the clay which is abundant near York. The use of wall-tiles has been traced as far back as the latter half of the 13th century, but it was not until the reign of Henry VI. that “they became fashionable materials for building.” Bricks under the name of wall-tiles are said to have been employed in the construction of some parts of King’s College Chapel, Cambridge; and the magnificent mansion of Hurst-Monceaux in Sussex, erected in the early part of the reign of Henry VI., was built wholly of brick. The price per 1000 stated in the present compotus is 6s. 4d. During a century preceding, it had varied from 6s. to 6s. 8d.; a century later the price in Suffolk was 4s. 8d. per 1000. *Archæologia*, Vol. IV. p. 90. Gage’s *History of Hengrave*, p. 47. Parker’s *Glossary of Architecture*.

<sup>2</sup> Different kinds of nails. Spikings is a term now in use for some sorts of iron nails.

<sup>3</sup> *Metis*. A met, at York, contained two bushels.

<sup>4</sup> *Sumagiis sabuli*. Horse-loads of sand.

Item in xxj doliis de *Plastre*<sup>1</sup> emptis pro hujusmodi opere, precii dolii cum cariagio ij<sup>s</sup>. iiij<sup>d</sup>. . . . . lxx<sup>s</sup>.

Item in thradiis<sup>2</sup> vij c emptis pro combustione ejusdem, precii C. viij<sup>d</sup>. . . . . iiij<sup>s</sup>. viij<sup>d</sup>.

Item in denariis solutis Johanni Bolron Carpentario et sociis suis pro factura carpentarie omnium domorum predictorum (*sic*) ex certa convencione secum facta in grosso. . . . . x<sup>s</sup>. x<sup>d</sup>.

Item in denariis solutis Johanni Carter pro evacuatione terre de solo ubi dicte domus fuerunt edificate extra castrum prædictum ac pro mundacione ejusdem soli et planum faciende ex consimili convencione . . . . . xxxij<sup>s</sup>.

Item in denariis solutis cuidam tegulatori pro tegulacione omnium domorum predictorum (*sic*) ex consimili convencione . . . . . xxx<sup>s</sup>.

Item in denariis solutis duobus plastratoribus pro plastracione omnium murorum dictarum domorum ex consimili convencione . . . . . vij<sup>li</sup>.

Item in Cxxx sumagiis luti emptis pro fundamentis domorum ibidem et pro fornacibus pro factore monete et pro caminis de eo faciendis, precii cujus sumagii, j<sup>d</sup>. . . . . x<sup>s</sup>. x<sup>d</sup>.

Item, vj *Spryng lokkys* cum xij clavis emptis pro eisdem . . . . . hostiorum domorum predictarum . . . . . vij<sup>s</sup>. vj<sup>d</sup>.

Item, in ij *doubel Spryng lokkys* cum stapulis emptis pro eisdem cum x clavis emptis pro eodem . . . . . iiij<sup>s</sup>. iiij<sup>d</sup>.

Item, in v *Stoklokkes* emptis pro eisdem . . . . . ij<sup>s</sup>. vj<sup>d</sup>.

Item, in viij anulis ferri cum basis<sup>3</sup> emptis pro hostiis domorum predictorum (*sic*). . . . . xvj<sup>d</sup>.

Item, in iiij *Slottes* et iiij stapillis ferri emptis pro hostio domus Thesauri . . . . . xij<sup>d</sup>.

Item, in tegulis vocatis *querelis*<sup>4</sup> emptis pro pavimento faciende in uno (*sic*) domo vocato *le Meltyng-house* et j homini pro labore suo . . . . . xvij<sup>s</sup>.

<sup>1</sup> Probably gypsum or plaster of Paris which was formerly imported into this country, being brought over in a rough state and burnt here. Turner's Dom. Arch. of the Middle Ages, p. 15.

<sup>2</sup> *Thradiis*. Probably thraves of straw used in burning the *plastre*.

<sup>3</sup> Iron rings with bosses formed the handles of the doors.

<sup>4</sup> Annealed tiles, called *quarrels* from their square or lozenge form, were used for the floor of the melting-house.

Item, in xv *Slottes* et stapulis ferri emptis pro hostiis et fenestris ibidem . . . . . ij<sup>s</sup>. vj<sup>d</sup>.

Item, in xxxij petris et iiij lbs. plumbi emptis de Thoma Plumer pro ij gurgitibus<sup>1</sup> inde factis. . . . . xxj<sup>s</sup>.

Item, in xiiij *Fyrsparras*<sup>2</sup> emptis pro caminis et closettis in eisdem . . . . . iiij<sup>s</sup>. iiij<sup>d</sup>.

Item, in j par magnarum ligaturarum ferri cum crocis ferri<sup>3</sup> emptis pro magno hostio Thesauri . . . . . iiij<sup>s</sup>.

Item, in magna cerura cum clavis emptis cum stapillis ferri pro eodem hostio . . . . . iiij<sup>s</sup>.

Item, j cementario facienti foramina in petris pro dictis crocis ferri ibidem fixando per unum diem . . . . . iiij<sup>d</sup>.

Item, in vij paribus ligaturarum ferri emptis pro hostiis domorum supra dictarum, pro quolibet pari vij<sup>d</sup>. . . . . iiij<sup>s</sup>. j<sup>d</sup>.

Item, pro xj paribus ligaturarum ferri emptis pro fenestris, precium cujus paris, iiij<sup>d</sup>. . . . . iiij<sup>s</sup>. viij<sup>d</sup>.

Item in bordis de doliis vocatis *Wadtonn*,<sup>4</sup> emptis pro placiis ibidem faciendis . . . . . xxvj<sup>s</sup>.

Summa lxvij<sup>h</sup>. viij<sup>s</sup>. v<sup>d</sup>.

From the preceding account we learn that the buildings which formed the royal mint in the castle of York in the fifteenth century consisted of a dwelling-house for the moneyer and his servants,—a melting-house with the requisite furnaces,—and a treasury, or *domum fortem in quâ monete secure custodiri poterunt*. The amount shown by the computus to have been expended in its re-construction, does not lead to the

<sup>1</sup> Two spouts of lead, weighing 32 sto. 4 lbs. cost about 8d. per stone. About the same price was paid in Suffolk a century later. History of Hengrave, p. 47.

<sup>2</sup> *Fyrsparras*. Spar is a northern term for rafter. By the firspars in the computus are probably meant sawn lengths of Norway deals. Deals under the name of *bordes de Estland* were used in the repairs of Berwick Castle in the reign of Edward I. Liber Quotid., p. 119.

<sup>3</sup> Iron bands and crooks formed the hinges of the doors.

<sup>4</sup> *Bordis de doliis vocatis Wadtonn*. The staves of empty casks were used for paling. The wad-ton was probably the cask in which the dyeing plant called wad or woad was imported. Woad was formerly an article of considerable traffic at York. "Pro xxii doliis vacuis emptis pro palicio faciendo ad curtilagium Regine xvij<sup>s</sup>. iiij<sup>d</sup>." Account of Expenses at Rhuddlan Castle. Archæol., Vol. XVI. p. 44.

supposition that the mint was an edifice of any architectural pretension; and we may therefore be the less surprised that not a vestige of it is now known to be in existence. Most probably the buildings had been either appropriated to some other purpose, or allowed to fall into decay long before Mr. Drake's time. In his description of the antient fortress he makes no allusion whatever to any such structure.

#### THE ANTIENT PROCESS OF COINING.

The primitive method of striking money by the hammer and coining irons was continued without alteration or improvement during the whole of the long period of time that the provincial mints were in general operation; the use of the mill and screw not having been introduced into this country until the early part of the reign of Queen Elizabeth.

Representations of the antient coining irons are given in the accompanying print. They consisted of

1. The lower die, called the Standard or Staple, upon which the matrix of the obverse side of the coin was usually, if not invariably, engraved. This was firmly fixed into a block of wood or iron by means of a spike or tang into which the lower end of the standard or staple was shaped.

2. The upper die, called the trussell or puncheon, having upon it the matrix of the reverse side of the coin.

When the piece of metal intended to be coined was laid upon the standard or lower die, the trussell or puncheon was put upon it, and kept in its place by the coiner holding it in a clipped or twisted hazel stick,<sup>1</sup> whilst another person struck the puncheon forcibly with a hammer.

The number of coining irons delivered to the provincial mints was usually in the proportion of two puncheons to one standard, the greater part of the wear and tear being upon the puncheon or upper die, which soon acquired a mushroom-top formed by the repeated strokes of the hammer, and was frequently split by the force of the blow in bringing up the impression.

<sup>1</sup> The contrivance of the twisted hazel stick is now in common use by smiths for holding their punches.

The puncheon or upper die represented in the plate, Fig. 1, contains the matrix of the reverse of a York half-groat of King Edward III.<sup>1</sup> The standard or lower die, Fig. 2, is the obverse of a London half-groat of the same type.<sup>2</sup> These specimens of coining irons, with a great number of others which had been used for stamping the silver monies of Edward III. and Henry VII., mostly of the York mint, were discovered about twenty years ago, much corroded with rust, in one of the vaults of the record office of the Chapter of Westminster.<sup>3</sup>

Among them were, very probably, some of the "coigneing yryns of the cite of York" which were the subject of the proceedings recorded in the following memoranda:—

"Be it had in mynde that the xxviij day of June in the secund yere of the reigne of King Henry the vij<sup>th</sup> Thomas Graa master of the mynt within the palois yarth of the cite of York delivered unto William Todde maier of the city of York a bagg  
Delivere of the old coyneing yryns unto the cite of London. of ledder contigneing xij old conyng Iryns, that is to say, iiij Standers and viij Trusselles, the which bagg the said William Todde maier sealed and delivered to y<sup>e</sup> handes of John White, coigner, to deliver unto y<sup>e</sup> Chequor at London and from thens to bring newe yravene Iryns agene from the said Eschequor unto the said cite of York."

"M<sup>d</sup> that the sixth day of July in the secunde yere of the reigne of King Herry the sevent, Thomas Gray, Goldsmyth, Maister of the Mynt at the paloyes of the moost reverend Fader in God tharchbisshopp of York, personally appering bifore William Todde maier of the cite of York in y<sup>e</sup> chambre upon Ouse brig, presented unto hyme a bagg of leder sealed contigneing in y<sup>e</sup> same iiij Standers and viij Trussels beryng the  
Delyvere of y<sup>e</sup> coigneing Yryns of y<sup>e</sup> cite of York unto Thomas Gray. peny coigne, sent unto hyme furth of the kinges Eschequor as he shewed; the which bagg my lord maire receyved at thandes of the said Thomas, and delyvered unto hyme the said iiij Standers

<sup>1</sup> Ruding, Supp. pl. 2, No. 9.    <sup>2</sup> The crown is the London MM. Hawkins, p. 99.

<sup>3</sup> See an article by Mr. John Field, Numis. Chron., Vol. VII., p. 18, giving an account of this discovery. The print of the coining irons is copied from that which accompanied Mr. Field's communication.

and viij Trusselles, and reservyd the bagg whiche thei wer in unto hymeself for soo moche as y<sup>r</sup> was a holle in y<sup>e</sup> side of the said bagg at the whiche the said Iryns was taken furth.”<sup>1</sup>

The old method of coining by the hammer, which was not wholly laid aside until the year 1662, Mr. Ruding observes, “appears to have been nearly coeval with the first invention of coined money ; and it is a very singular fact, that no improvement of any importance was made in it, until the power of the screw was applied to coinage in the French mint about the middle of the 16th century.”<sup>2</sup>

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I cannot conclude these notices without expressing my obligations to Edward Hawkins Esquire, keeper of antiquities in the British Museum, for the information he has most readily communicated to me respecting the York coins in the National collection ; and to the Rev. C. Wellbeloved, curator of antiquities in the Museum of the Yorkshire Philosophical Society, for the friendly interest he has taken in my researches, and the valuable assistance he has afforded me in the prosecution of them.

ROBERT DAVIES.

*York, August 19th, 1854.*

<sup>1</sup> Extracted from the archives of the Corporation.

<sup>2</sup> Annals, Vol. I. p. 67.

*An Account of the Excavation of the remains of a Roman Villa near Collingham.*—By WILLIAM PROCTER, ESQ., M. R. C. S., *Hon. Sec. to the Yorkshire Antiquarian Club.*

The object of the present paper is to furnish some account of the examination of a portion of the remains of a Roman Villa not far from Thorparch, and which has had for its result the addition of some most valuable and interesting objects to the Antiquarian department of the Museum of the Yorkshire Philosophical Society.

The site of the villa is about three quarters of a mile south of the high road from Tadcaster to Harewood, and three miles from Boston Spa, in a field belonging to the farm at Compton in the parish of Collingham, known by the name of Dalton Parlours. The situation is on a rising ground of considerable elevation, and the prospect from the summit is extensive and commanding. Before the enclosure, this field formed part of Clifford Moor, and here, in a copse of hazels and brushwood, were the remains of walls, from which circumstance it derived its former name, Abbey field. The stones composing these remains were removed about the year 1806, to furnish materials for the building of some out-houses at Compton. The Abbey field is now tilled and known as Dalton Parlours, and at various periods up to the present time, coins, tiles and other remains of Roman occupation have been ploughed up. Of these objects thus found from time to time scarcely any notice was taken until the last spring, when several gentlemen of the neighbourhood, especially the Rev. B. Eamanson, of Collingham, and F. Carroll, Esq., of Thorparch, determined to examine the site. By invitation from these gentlemen several members of the Yorkshire Philosophical Society visited the remains; which were found to be of so interesting a character as to lead them to make a report to the Council, which induced that body to continue the excavations, and it is to be greatly regretted that the state of the crops has compelled the Society—not to stop it is to be hoped—



but only to suspend their labours until after the harvest. I must here remark that to Mr. Carroll, the Society is particularly indebted for undertaking the superintendence and for the zeal and energy with which he has pursued the investigation. Through his kindness I was enabled to hear almost daily of the progress of the excavations, and frequently to inspect the works.

Remains of the villa have been found over a portion of ground at least seven or eight acres in extent. On the south side of the broken ground the occasional remains of a wall seem to mark tolerably well the extent in that direction. The fields on the north and north-west, which are cropped, are known to contain some remains of the villa; from this cause, as well as from the adjoining portion of Dalton Parlours being covered with a plantation, the scope of operations was necessarily diminished. A limited portion of ground only could be excavated without injury to the corn; and this has prevented an accurate plan of the building as a whole from being obtained.

The portion of the buildings primarily discovered and which led subsequently to further investigation, consists of the remains of two hypocausts, marked A and B in the annexed plan, separated from each other by a wall measuring from the surface of the ground, as it is at present, to the floor, 2 feet 4 inches. The hypocaust of the western room (A) when first seen by me, measured 8 feet 6 inches, by 8 feet 2 inches, and contained five rows of pillars, each row consisting of five pillars, built of the ordinary flat Roman tiles 8, 9, and 10 inches square, with layers of concrete, made of mortar and powdered brick, between them. These pillars, especially towards the lower part, showed the action of fire, and in the spaces between them bones of various animals and the skulls of one or two sheep were discovered. The floor is a cement composed of brick and lime. This room, when first opened, was much longer than it appears at present; for a portion of it at the west end, has been heedlessly destroyed and its boundaries obliterated by visitors, so that at the period when it was measured, the original dimensions could not be accurately ascertained. Beyond this ruined portion were the remains of a *præfurnium* or furnace, likewise

imperfect, but when discovered appearing to be of similar construction to the one found at the York baths, and containing a large quantity of wood ashes. At the east end the hypocaust was bounded by a well built wall of sandstone (of which material all the other walls were constructed), communicating with the second hypocaust (B) by a small opening (a) like a flue, which was stopped up on one side by Roman concrete. This second chamber was on the same level as the first, measuring 8 feet 4 inches, by 7 feet 10 inches; it contained five rows of pillars, each row consisting of five pillars, eleven of the whole being of sandstone, (which are shaded in the plan) the remainder of brick. On the north side was a communication (b) with a third chamber presently to be described. The pillars in the two chambers seem to have supported a floor of thick concrete, composed of mortar and powdered brick, laid on flat tiles passing across the top of the pillars, thus forming the floor of an ornamented chamber above them, as large masses of stucco, coloured in different ways, were found in this place. Pursuing the line of excavation to the east, there was a space (C) 18 feet long and of the same breadth as the hypocaust, through which trenches in several directions were dug, without revealing anything except a considerable quantity of large tesserae of chalk and tile measuring an inch square, and which doubtless had formed the floor of a chamber in this situation. Beyond this, at the distance of 2 feet 4 inches, was a slab of concrete (D) 7 feet long and 2 feet broad, and of considerable thickness, furnished with raised edges, with a groove (c) in one corner. Little doubt can exist that this was the bottom of a bath or cistern; and that it was for the purpose of holding cold water, may be inferred from the absence of any means of heating. Connected with the grooved corner was a channel of stone (E), apparently for the purpose of carrying the water from the bath; this channel took a direction to the north for about 26 yards and then terminated in one of the sides of a square cistern (F) 1 foot 6 inches deep, 1 foot 10 inches broad, 2 feet 3 inches long, made of flags one to each side and end, and two to the bottom. On the side opposite to the one in

which the grooved channel entered 6 inches from the top, were two small openings; one connected with a channel (E f) similar to the channel (E e) and which was traced for 40 yards; but nothing of the kind was found connected with the other. Both the channels (E e) and (E f) appeared to have a fall towards the tank, as if designed for the conveyance of water to that point; and yet as a reservoir for water it appears to be of very small size. If it be imagined that this structure is modern, the difficulty in conceiving for what purpose the tank could have been constructed is equally great; and though no doubt the being constructed of flags is not the usual character, yet I should not suppose this fact totally invalidates the opinion that it is Roman work; for among other examples in other parts, where the floors of rooms were formed of flag stones laid regularly over a mass of concrete, Dr. Bruce speaks of flag stones forming part of the hypocaust at Cilurnum on the Roman wall. Nearly in a line with the tank, and to the north-east of it, a large square of foundations (G) formed of the best worked stone that was met with, measuring 10 by 18 yards, was excavated: the west wall of which is marked strongly with fire and displays some remains of a fire-place. The floor had been covered with that coarse kind of pavement called *Ruderatio*, formed by imbedding refuse pieces of tiles and stones in a structure of mortar.

Adjoining the north wall of the hypocaust (B) is a third chamber (L) referred to above, of which the foundations alone remain, measuring from north to south 28 feet, from east to west 27 feet, on the same level as the other two rooms. It communicates with the second of these by an opening like a flue (b), and which I imagine has been for the escape of the smoke from the hypocaust; only a few feet of it existed, so that neither its course nor destination could be traced. As a quantity of large red stone and coloured tesserae were dug out of this room, it had in all probability at one time possessed a tessellated floor. Round the lower part of the wall was a species of ledge, formed by the upper course of masonry, being narrower than the lower. This might have been a sup-

port for flue tiles conveying hot air for the purpose of warming. In the north-east corner about one foot from the surface the skeleton of a child was discovered; with the bones were several large nails with small portions of wood adhering to them, leading to the idea of their having been part of a coffin. The department of the villa, thus far described, seems to have been appropriated to the baths; and from similar discoveries in other places the opinion is reasonable, that a great portion belonging to this department as well as the baths themselves, are under the unexcavated portion of the field on the south side of the hypocausts. Nearly the whole of the pillars, &c., of this hypocaust are now in the Hospitium among the antiquities of the Yorkshire Philosophical Society deposited in that place.

About one hundred yards west and considerably to the north of the hypocaust, in a line with the flag tank already described, at the side of the field amidst a number of trees, was discovered a fine tessellated pavement, the greater part of which has been, under the very able and skilful superintendence of Mr. Baines, removed in an extraordinary state of perfection to York. The line of direction was north and south; the north portion stood ten degrees east of due north, and had a semicircular or apsoidal form; the south portion was so incomplete that the precise character and form of its termination could not with accuracy be decided. The room was divided into two unequal portions (H and I) by the foundations of a wall (which may have been for the foundation of pillars) 1 foot 10 inches broad. The measurements were—

|  | Feet. | Inches. |
|--|-------|---------|
| Whole length . . . . .                   | 37    | 11      |
| End of Apsis to the Wall . . . . .       | 13    | 7       |
| South side of Wall to end of Pavement .. | 22    | 6       |
| Width inside the Wall . . . . .          | 20    | 6       |

In describing the pavement itself I begin at the northern extremity (H), where in the first place a semicircle of drab coloured tesserae occurs, the two boundary lines being made up of portions of two circles of different radii, so that a semilunar shape is given to it, the widest part measuring 2 feet 6 inches.

Internal to these are semicircular bands of white, red, black, white, red, white, blue, together measuring  $2\frac{1}{2}$  feet in breadth ; these coloured arcs cease at a blue line of tesserae running the whole length of the dividing wall and at right angles to them ; internal to these bands is a portion of pavement 1 foot  $3\frac{1}{2}$  inches, formed of a semicircle placed on a straight line, thus assuming the shape of a D. All round this runs a blue waving scroll, the depression of each wave being filled with a line which takes somewhat the form of a helix and terminates in the centre in a leaf-like figure, alternately coloured red, white, and yellow, thus forming a modification of the Vitruvian scroll : a similar but not the identical pattern is figured in the 18th plate of *Artis' Durobrivæ*. At the straight part of the D shaped figure, the scroll is discontinued on each side, and the interval is filled up with a figure like an urn ; the whole design is on a white ground. More internal to a narrow blue and white line is a treble guilloche  $7\frac{1}{2}$  inches across, on a blue ground composed of five bands and four colours, viz. blue, red, drab, white, and blue. Within a D shaped series of white tessera is the centre of the pavement composed of a double guilloche on a blue ground 3 inches across, of three colours and four bands, but varying successively in three divisions. 1. Blue, red, white, blue. 2. Blue, yellow, white, blue. 3. Blue, light red or pink, white, blue. The course of the guilloche is singular ; about  $3\frac{1}{2}$  feet from the straight line the whole length of which is  $10\frac{1}{2}$  feet, the guilloche passes perpendicularly across to the semicircular portion thus separating the centre into three, viz., a square central and two lateral triangular divisions. The square division contains a head made up of yellow, red, white, and dark blue cubes on a white ground ; the summit of the head is directed to the south, and the chin to the north. The twining of the hair is evidently in representation of the twist of serpents, and the whole character of the head would lead to the inference that it was the intention of the artificer to depict either Medusa or one of the Gorgons. The two lateral divisions contain each a figure of yellow, blue, and red colours, surrounded by a triangular drab line ; the ground is white. There is some difficulty

in deciding the object which the figure here described is intended to depict. It is either an urn or, as is more probable a patera containing a conical loaf, of that kind known to be used at Grecian feasts under the name of *Πυραμους* (Pyramys).

On the south side of the transverse wall was a second pavement (I), of an entirely different pattern from the one just described; it was composed of a central and two lateral portions, which apparently ran the whole length of the room, 22 feet 6 inches, meeting a transverse portion, which joined the dividing wall; this band was composed of alternating blue and white pyramids with their apices in opposite directions, and bounded by a narrow blue and white line, being occasionally interrupted by a tessera of the central design, which is composed of a series of overlapping shells, like figures composed of an external blue line, the internal colours being red, drab and white. The lateral portion enclosing this central mosaic, was composed of a white line of three, a blue of one, and a red of five tesserae; without this is a series of drab squares, measuring 14 by 12 inches of two tesserae, the corners white, and enclosing a white space. The whole of this pavement was so much dilapidated, that whether the two sides were similar, and whether the general character and arrangement of the upper part was carried throughout, could not be accurately ascertained. Rooms having similar apsidal recesses are described by Dr. Bruce as having been found in connection with the baths at Cilurnum, Hunnum and Lanchester on the Roman wall. The same thing occurs at Durobrivæ and Lymne, and at Isurium a basilica, with an alcove, has been exposed; in fact such an adjunct has been found almost universally in Roman houses in Britain. No hypocaust could be found below this pavement at Dalton Parlours, and the tesserae were fixed in a concrete of mortar and powdered brick.

The several colours of the tessera, which were, blue, red, drab, white, yellow, pink or light red, and brown, were produced by a variety of material, and were principally natural substances. White was produced by cubes of chalk, whilst lias and a sandstone, probably of the coal measures, gave

the blue and drab colours. The yellow and pink tesserae are formed from rarer material, being peculiar varieties of the magnesian limestone, for chemical analysis indicates such to be their constitution; the pink colour is produced by the stone being streaked and partially mixed with a light coloured peroxide of iron. Terra cotta was employed to produce the red and dark colour. The degree of facility with which these substances would take polish, and the different hues they would assume by contrast with other colours near them, would give greater variety to the whole than might have been expected a combination of colour so simple could produce. To the east of this pavement is a stone wall (K), which has been traced for a few yards, and is interrupted by the material of stone being changed for bricks: these are marked by smoke and are probably the remains of a fire-place.

No excavations of any value could be carried on, at present, here, for the whole ground is strewn over with stones and the remains of a hypocaust, which had been destroyed by the farmer in obtaining stones for building.

It might have been expected that amidst ruins of such extent numerous articles for domestic use would have turned up; this has, however, not been the case; and in this respect the excavations have been particularly unproductive. Large quantities of the ordinary square flue tiles, with lateral openings, have been met with, especially near the hypocaust, scored at the sides in bands diagonally crossing each other, or covering the surface from edge to edge and crossing at right angles; the object of this marking being to give a rough surface to the tile by which it can be more tenaciously set in the mortar. Not one of these tiles has been found entire. Another kind of tile was the ordinary roofing tile, which is flat, with the edges turned or flanged, as it is called, as well as the semicylindrical tiles (*imbrices*), and which, placed over the flanges of two neighbouring tiles, connected them. Some of the flat tiles were found with the remains of a nail passing through one end. The tiles were universally marked with the impressions of dogs' feet, arising from the animal passing over them whilst they were in

a soft state : the same circumstance has been observed in similar remains at London, York, and other places ; no other marks of any kind are discernable.

The pottery met with consists entirely of fragments, no entire vessel occurring ; and it is as remarkable for its plainness as for the variety of form and absence of ornament ; which is generally the concomitant of Roman ware found under similar conditions. It is of coarse, red manufacture, with portions of the slate-coloured kind of better make ; they are principally fragments of urns of several varieties. As far as I know, only two very small portions of glass have been found ; clear, thin, and of a white colour ; one slightly curved, as though part of some spherical vessel, the other remnant is flat. In various parts of the ruins large portions of stucco have been turned up, with the remains of colour upon them, and seemingly parts of coloured walls ; the colours which mostly prevail are brown, red, purple, lilac, and yellow, painted in stripes ; and in one example, on a purple stripe, a white circular figure is represented. The material upon which the pigment is laid is a foundation of rather coarse concrete, and on this a thin coating of lime for the reception of the colours, which are superficial and in a good state of preservation. Large quantities of oyster shells have been found ; and it is worthy of notice, that an old well which was filled up a few years ago, formerly existed in one corner of the field. The broken fragments of some querns, numerous hexagonal tesserae of a brown colour, and large masses of stone 5 or 6 feet long, having the appearance of being parts of doorways, and retaining marks of iron work, and one with the peculiar depression for a *louis*, have been found. A curious relict, found in this locality some time since, is a massive silver ring, set with an intaglio engraved on a pale blue onyx, having for the device a winged Victory standing upon a globe.<sup>1</sup>

<sup>1</sup> Three skeletons have been found during the excavations, one of a child in the corner of the room marked L, and the others those of a male and female in positions indicated in the plan : the two latter had been doubtless interred in chambers, the boundaries of which the imperfect and ruined state of the foundation rendered it impossible for us accurately to trace. The same thing occurs at *Isurium* and other



The coins which have at the present and for some time past been met with, are few and unimportant, and of not the earliest periods. They are also in so bad a state of preservation, that being unable to decypher several, the Rev. C. Wellbeloved has kindly examined them for me; but I was only able to furnish him with impressions in wax. They are three silver denarii, viz.,

1. Obv. IMP. C. M. AVR. SEV. ALEXANDER. AVG.  
Rev. IOVI. VICTORI. Jupiter sitting.
2. Obv. ANTONINVS. AVG. PIVS. P. P. TR. P. XVII.  
Rev. COS. IIII. A female figure standing; in her left hand the palladium, in her right an ampulla.
3. Obv. IMP. C. POSTVMVS. P. F. AVG. Head with diadem.  
Rev. P. M. TR. P. COS. II. P. P. A military figure standing; in his left hand a spear, in his right hand a globe.

The remaining coins are middle brass.

4. Obv. CONSTANTIVS. P. F. AVG.  
Rev. SOLI. INVICTO. COMITI. In the area T. F. In the exergue P T R.
5. Obv. VALENTINIANVS . . . . .
6. Obv. Illegible.  
Rev. IOVI. VICTORI.
7. Obv. CONSTANS OR CONSTANTIVS . . . . .
8. Obv. Illegible.  
Rev. VICTORIA . . . . .
9. Obv. D. N. CONSTANTIVS . . . . .  
Rev. Illegible. A military figure smiting a captive.

From the general character of the remains and nature of the objects found on the site, there can, I suppose, be no hesitation in looking upon the foundations at Dalton Parlours as the remains of a villa, in which some wealthy Roman citizen, exchanging the "fumum et opes strepitumque Romæ" for the delights of a rural residence, had furnished himself with his

places of Roman occupation. This fact may be looked upon as an illustration of Tertullian and some other authorities, who assert that the custom of worshipping the Lares arose from the antients interring their dead in their houses, and which they adopted in order that their friends, even in death, might be near them.

usual luxuries and means of enjoyment. Independently of the absence of the mention of any station in this locality, by the writers of any authority in these matters, the place itself gives no indication which would lead to the formation of such an opinion.

An important question in determining various matters connected with this once considerable place is its connection, if it has any, with Roman roads. On referring to Newton's Map, it is found to be in a direct line, three miles distant from Rudgate, a branch from the main road from Lincoln, Doncaster, and Castleford, to York, (Itin. v. & viii.) crossing the Wharf at St. Helen's Ford, and through Aldbro', passing northwards. Dalton Parlours is five miles from Tadcaster, (Calcaria.) There are two other antient ways, with which the connexion of the villa seems to have been more intimate. A road from Ilkley (Olicana) to Tadcaster, passes nearly to Thorner and divides into two; one takes the direction of Bramham, crosses Rudgate and passes into the main highway to Tadcaster. The nearest point of Dalton Parlours to this road is Bramham, distant about a mile. The other passes through Thorner and is lost on Bramham Moor. There are some points connected with the lane leading from the high road to the field in question, called Dalton Lane, which are not unworthy of attention; it is straight in its course, is the only approach to the place, and is paved with large stones, in a great part of its course, with singular care and regularity. The course of this Lane from Dalton Parlours<sup>1</sup> is in a southerly direction through a wood called Dalton hill, terminating at the distance of rather more than a mile, in that which is now the road through Toulston to Tadcaster, from Leeds, and the site of the well-used Roman road from Ilkley, through Bramham to Tadcaster. I have had no opportunity of examining this part of the Lane, but throw out the conjecture, chiefly for the reasons mentioned.

<sup>1</sup> See the corner of the plan. On account of the extent over which the foundations spread and the distance at which the rooms which are traceable are separated, it has, for want of space, been found impossible to draw the plan accurately to *one* general scale.

If attention is directed to the northern extremity of the lane, on crossing the Harewood road, more towards Collingham, is a lane which has the appearance of antiquity, and of peculiar structure, and which terminates in the high road from Bramham to Wetherby. There are good reasons for supposing this lane to have been a continuation of Dalton lane, by these means forming a connexion with Wetherby, and probably proceeding as far as Isurium (Aldbro'), at which place it would unite with a continuation of Rudgate. Should the surmise that Dalton Lane has been a Roman vicinal road, be a correct one, it will at once be seen that communication with all the known places of Roman importance in the neighbourhood would at once and readily be obtained. At the same time rural villas were doubtless often adopted to escape the bustle of active life, therefore the immediate connection of such abodes with important high roads, was not perhaps considered in selecting a site for their construction.

In the imperfect account of this interesting locality which I have been able to give, it has been my endeavour to confine myself wholly to fact and description. I leave abler hands to decide the question whether here dwelt some provincial governor in luxury and magnificence, or whether here some opulent Roman in Britain made an attempt to continue his southern luxuries and enjoyments, or whether the remains are of that character which indicate connection with a lower class of society. However this may be, the destruction is now complete whatever may have been the cause; and for centuries at least woods have flourished over and flocks have grazed upon the site of this deserted mansion. Still the record, trifling it may be, is capable of making a slight addition to the great objects of archeological research: it may add one to the accumulation of facts which, from their number and variety, not invariably from their importance, is the basis of antiquarian knowledge—that of making us acquainted with the arts, customs, and habits of those long anterior to us, and in this manner enabling the science to afford important assistance to allied subjects of literature.

*Observations on a Roman Inscription lately discovered in York: read at the Monthly Meeting of the Yorkshire Philosophical Society, Nov. 7, 1854, by REV. C. WELLBELOVED. See Plate 8.*

It cannot be unknown to any member of the Society residing in York, that an inscribed stone was lately discovered at the depth of about 28 feet below the surface by some workmen employed in digging the drain from Goodramgate to the river Ouse. It was found, not in the direct line of the drain, but about 4 feet on the eastern side of it, in King's Square, near the house which stands at the corner of the Square and Goodramgate, and within a few yards of the line of the Roman wall and the supposed site of the Prætorian gate of the Roman station. It is a fragment of a large slab of mountain limestone, and the inscription is unfortunately imperfect. Not being able to examine it with a due degree of attention while it was lying in the Guildhall, for the inspection of the public, I obtained, through the kindness of Mr. Monkhouse, an excellent rubbing of it, by means of which I have been enabled to supply, I believe with accuracy, the letters which have been lost, and to assign to them the places which they occupied in the perfect tablet.

The stone in its present state measures 3 ft. 9 in. by 3 ft. 4 in., and the inscription appears thus :

P·CAESA  
 ERVAE·FIL·N  
 NVS·AVG·GER  
 NTIFEX·MAXIMV  
 TESTATIS·XII·IMP·V  
 PER·LEG·VIII·HI

The letters, which are all beautifully cut, are arranged in six lines, and vary in height from 6 in. to  $3\frac{1}{2}$  in., those of the first line measuring 6 in., those of the second line  $5\frac{1}{2}$  in., those of the third line  $4\frac{1}{2}$  in., those of the fourth and fifth lines about  $3\frac{1}{2}$  in., and those of the sixth line about  $3\frac{1}{4}$  in. Guided by this circum-

stance and the evidently designed symmetry of the lines, I venture to exhibit the following as the inscription in its original and perfect state :

IMP· CAESAR  
 DIVI·NERVAE·FIL·NERVA  
 TRAIANVS·AVG·GERM·DAC  
 PONTIFEX·MAXIMVS·TR  
 POTESSTATIS·XII·IMP·VI·F·C  
 PER·LEG·VIII·HISP

*Imperator Caesar Divi Nervae filius Nerva Trajanus Augustus Germanicus Dacicus Pontifex Maximus Tribunitiæ Potestatis duodecimum Imperatoris sextum faciendum (faciendam) curavit per Legionem nonam Hispanicam.*

The only uncertainty I feel, respects the supplying of what appears necessary to connect grammatically the last line with the lines preceding. It is evident that no words or word *in extenso* can be introduced without destroying the symmetry of the lines. What is wanting can be supplied only in an abbreviated form. I have introduced the initial letters of the phrase *faciendum* or *faciendam curavit*, commonly used in similar inscriptions. These are generally found at the end of an inscription, but I have inserted them, not entirely without authority,<sup>1</sup> at the end of the fifth line ; as according best with the general arrangement of the inscription.

This tablet is now deposited in the Museum of the Society by the Corporation of the City of York ; and it may justly be considered as one of the most interesting and valuable of the Roman remains by which the Antiquarian department of the Museum is distinguished. It is, I believe, the *most ancient* of the Roman inscriptions in Britain now extant. There may have been some of an earlier date in the southern parts of the island ;

<sup>1</sup> In the following inscription *curavit* is found in a corresponding position :

NERO·CLAVDIVS·DIVI || CLAVDII·FILIVS . . . . .  
 . . . . . || VIAM·AB·APAMAEA·AD·  
 NICEAM·COLLAPSAM || CVRAVIT·PER·CAIVM·  
 IVLIVM·AQVILAM·PROC·SVVM

but if there were, they have perished ; or they are concealed in the foundations of old buildings, or lie buried in the ground. One only remains, so far as I can learn, to contend with our tablet for priority of date. I refer to the inscription found above a century ago (April 1723) at Chichester, the *Regnum*, probably, of the Itinerary. It is also a fragment, figured in Pl. 76 of the *Britannia Romana* ; fully described by the learned antiquary, Roger Gale, and referred by him to the reign of the Emperor Claudius. The letters are beautifully cut, and indicate an early period of the Roman occupation of Britain ; but there is good reason to believe that it is not older than the time of Hadrian, or of Antoninus Pius.<sup>1</sup>

But if the claim of our tablet to be considered as the most ancient be disputed or denied, I may safely assert, on the authority of a remark by Mr. Horsley, the learned and accurate author of the *Britannia Romana*, which I believe has not been contradicted by any discoveries since his time, that it is the *only* Roman inscription extant of the period of Roman-British history to which it belongs : a period of 30 years, concerning which all the Roman historians are silent. "The silence of the Roman historians with relation to Britain," observes Horsley, "may justly be extended from the year 85, when Agricola was recalled by Domitian, to the year 120, when Hadrian is said to have come over to Britain. This long chasm" he adds, "is a great disadvantage ; and the more so because we cannot borrow any light or assistance as to this part of it from any Roman inscription in Britain, there being none now extant which we can be certain are so ancient as this."<sup>2</sup> To this period of historical silence this tablet manifestly belongs. It was executed in the reign of Trajan, the immediate predecessor of

<sup>1</sup> See An Account of this inscription by Roger Gale, Esq., with Mr. Ward's Remarks, transcribed from the Philosophical Transactions, in Horsley's *Brit. Rom.*, pp. 332—338. Besides the objections to Gale's interpretation of it suggested by Mr. Ward, the occurrence of several *literæ ligatæ*, or "complicated letters" affords a strong presumption against the earlier date.

<sup>2</sup> See *Brit. Rom.*, pp. 41, 48, 49. In another place he observes : "Hadrian is the first Emperor whose name occurs in any of our British inscriptions, and we have not many of his." *Ib.*, p. 183.

**Hadrian.** It records distinctly the date of its execution; for the twelfth time of Trajan's receiving the Tribunitian power, and the sixth time of his being saluted Emperor synchronize with the years 108, 109, of the Christian æra.<sup>1</sup> In this inscription then, so unexpectedly brought to light, we have a memorial, the only one I believe yet discovered, of a period in Roman-British history concerning which no memorial was supposed to exist.

But curious and interesting as it is, it must be confessed, with regret, that 'we can borrow no light or assistance' from it in relation to the general state of Roman Britain during the period to which it belongs. It relates one transaction only, limited to one Roman station; and the information it affords, even with respect to that, is imperfect. All that we directly learn from it is that in the year 109 the IXth Legion had executed some work by order of the Emperor Trajan. Of the nature of that work, or of the place where it had been executed, it tells us nothing. From the character of the tablet we infer that the work must have been of some magnitude and importance: and presuming that it was executed at the station, on the site of which it was found, we conclude that the place was Eburacum. If so, it establishes as a fact what was previously only a conjecture,<sup>2</sup> that in the reign of Trajan the IXth Legion was at Eburacum, where probably it had been left by Agricola, in the year 85, on his way from Caledonia to Rome.<sup>3</sup>

It appears from this tablet that although the attention of the Emperor Trajan was chiefly occupied in extending or securing the Roman power in the East, and he never visited Britain,

<sup>1</sup> See Eckhel Doctr. Num., P. II., Vol. VI., p. 421. Trajan entered on his XIIth Tribunitiate in the autumn of A.D. 108. *Ib.* p. 462.

<sup>2</sup> Horsley, B. R., p. 80.

<sup>3</sup> The historian of York says, without citing his authority, that when the Emperor Hadrian came into Britain he met with some old soldiers of Agricola at York, who dissuaded him from his designed attempt to conquer Caledonia. See Drake's Eboracum, p. 8. These were, no doubt, veterans of the IXth Legion; who, after an interval of 35 or 36 years, still retained a lively recollection of what had passed at the Grampian Mountains, and especially at Dealgin Ross. See Eburacum, pp. 34, 35.

yet he did not wholly neglect this remote western province. But why he should distinguish Eburacum above every other station in the province, either by adorning or by fortifying it, is one of several enquiries respecting the early history of Eburacum, suggested by this interesting relic, to which no satisfactory answer can be given.



EXPLANATION OF THE PLATES ILLUSTRATING  
MR. ALLIS'S PAPER. P. 114.

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PLATE 4.

- Figure* 1. A sclerotic ring of the Cassowary.
- 1a. The detached bony plate forming the ring ; being one of the best examples of the manner in which these bones interlock into each other.
  2. Ring of the African Ostrich.
  3. Ring of the Golden Eagle, which is proportionally larger and the bones thicker and stronger than the author has found in any other bird of this family.
  - 3a. Detached bones of the same.
  4. Ring of the White Tailed Eagle.
  5. A front view of the ring of the Great Horned Owl ; in which the bones are of considerable thickness, but light and porous.
  - 5a. A side view of the same, shewing a more perfect tube than is found in any other bird.
  - 5b. Three detached bones of the same.

PLATE 5.

- Figure* 1. Sclerotic ring of the Norfolk Plover ; which is proportionally larger than in any other known instance.
2. Ring of the Spoonbill ; very small and feeble.
  3. Ring of the Crane.
  4. Ring of the Wild Goose ; which is proportionally one of the smallest.

- Figure 5.* Ring of the Herring Gull, considerably larger than in the Wild Goose, though the bird is but little more than a third its size and weight.
6. Ring of the Gannet.
  - 6*a.* Two detached bones of the same.
  - 6*b.* A section of one of the bones to shew its thickness; in this bird the bones are thicker, more compact, and stronger than in any other known instance.
  7. Ring of the Pelican, a much larger bird than the preceding.
  8. Ring of the Black-throated Diver, which is large and strong.
  - 8*a.* Detached bones of the same.
  9. Ring of the Red-throated Diver, which though a larger bird than the preceding, has the ring more feeble and smaller; indicating that it takes its food nearer the surface of the water.
  - 9*a.* Detached bones of the same.
  10. Ring of the Sea Parrot; which covers a larger portion of the eye than in any other aquatic bird; and acquires greatly increased strength from the extent to which the bones overlap each other.
  - 10*a.* Detached bones of the same.
  11. Ring of the Domestic Fowl.
  12. Ring of the Collared Dove, which like all the other Columbidae which have come under the author's notice, consists of 11 bony plates; the smallest number met with in any class of birds; the extinct Dodo being the only bird with the like number.
  13. Ring of the Wood Grouse.
  14. Ring of the Green Woodpecker, which is larger and covers a much greater portion of the eye, than in any other scansorial bird.
  15. Ring of the Blue Macaw, a bird more than twelve times the size of the Woodpecker, though with a much smaller ring.

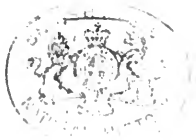
- Figure 16.* Ring of the Lemon-crested Cockatoo, which is like the Macaws, very small.
17. Ring of the Toucan, a bird not a third part the size of the preceding, but which has a much larger ring.
18. Ring of the Touraco or Plain-tain Eater.
19. Ring of the European Night Jar ; the bones are soft and the ring is very feeble.
20. Ring of the Swift, proportionally one of the largest and strongest.

## PLATE 4.

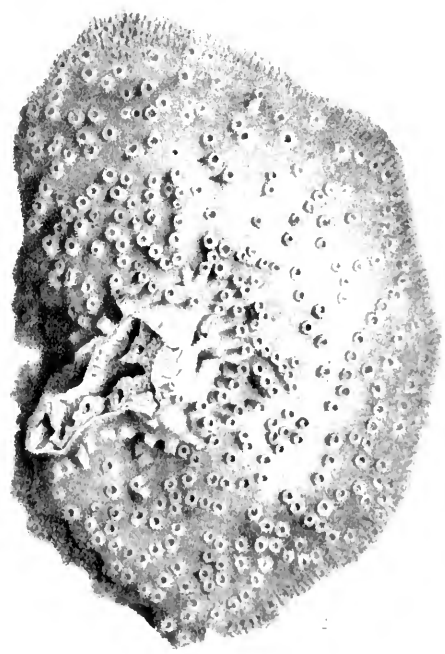
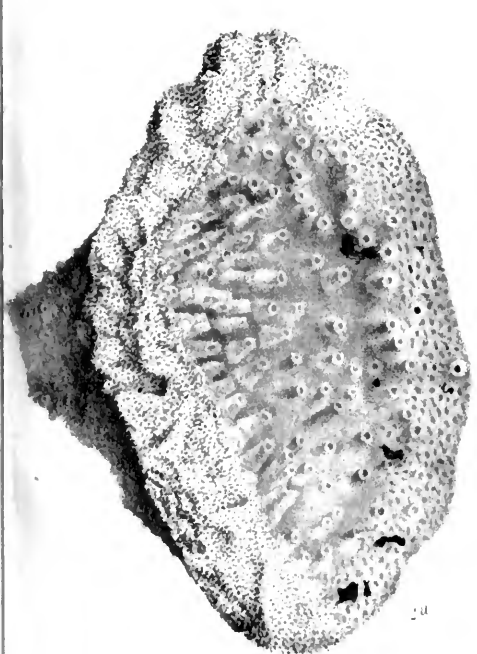
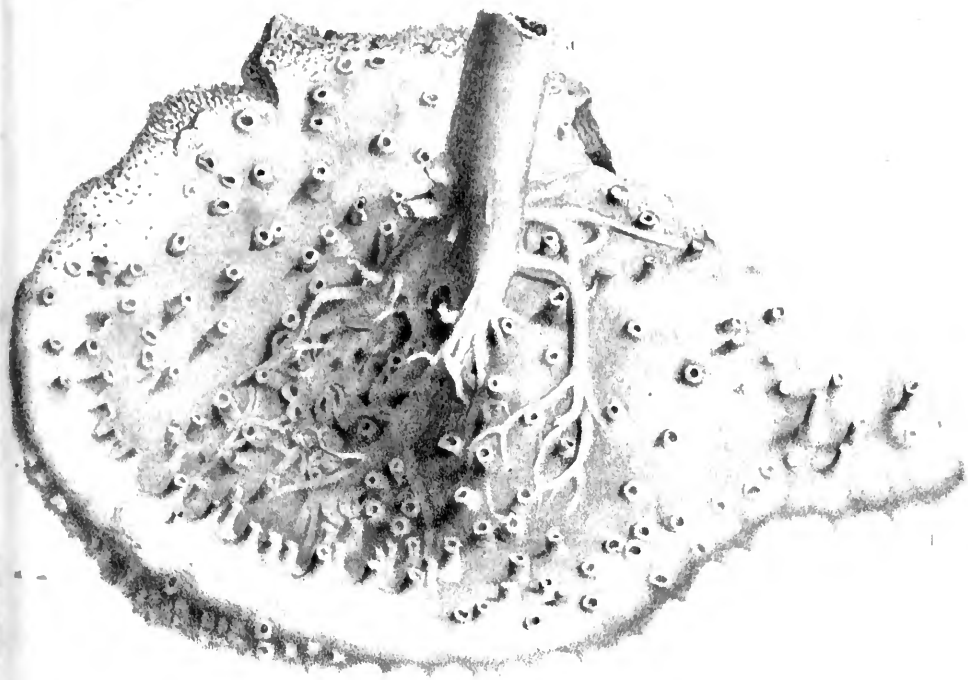
## REPTILES.

- Figure 6.* Sclerotic ring of the Iguana.
- 6a. Two detached bones ; the outer edge of which forms a kind of pedestal, contrary to what is found in birds, where the outer edge is generally the broadest ; in the present case the ring is much strengthened from the extent to which the bones overlap each other in consequence of this peculiarity in their form.
7. A front view of the ring of the Gecko, which in this surrounds the eye, as described by Cuvier, and covers scarcely any part of the anterior portion of the eye.
- 7a. A side view of the same ring.
8. Ring of the Chameleon ; which covers the whole surface of the front of the eye except the pupil, and shews the smallest aperture of any known sclerotic ring.

*Ant. 7°*  
17. 9. 84

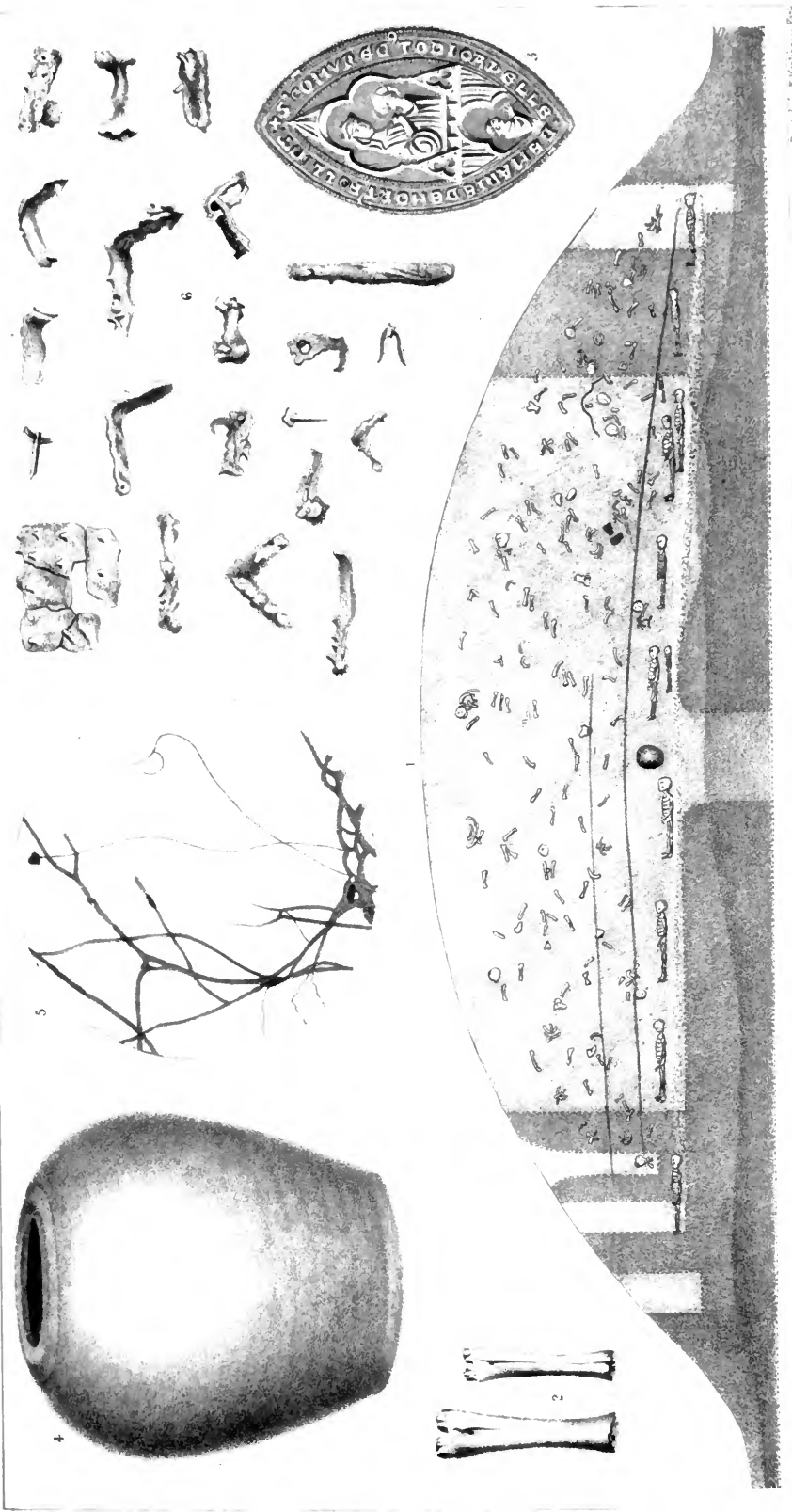






*Rhizospongia polymorpha* from the chalk of Flamborough.  
Museum of the Yorkshire Philosophical Society.  
a fig. 1. stem with roots ramifying upon another fibrous sponge





Section plan of and objects found in, the Tumulus of Lamel hill near York.

Drawn by F. Kenyon, Esq.

Pl. 2. 38.





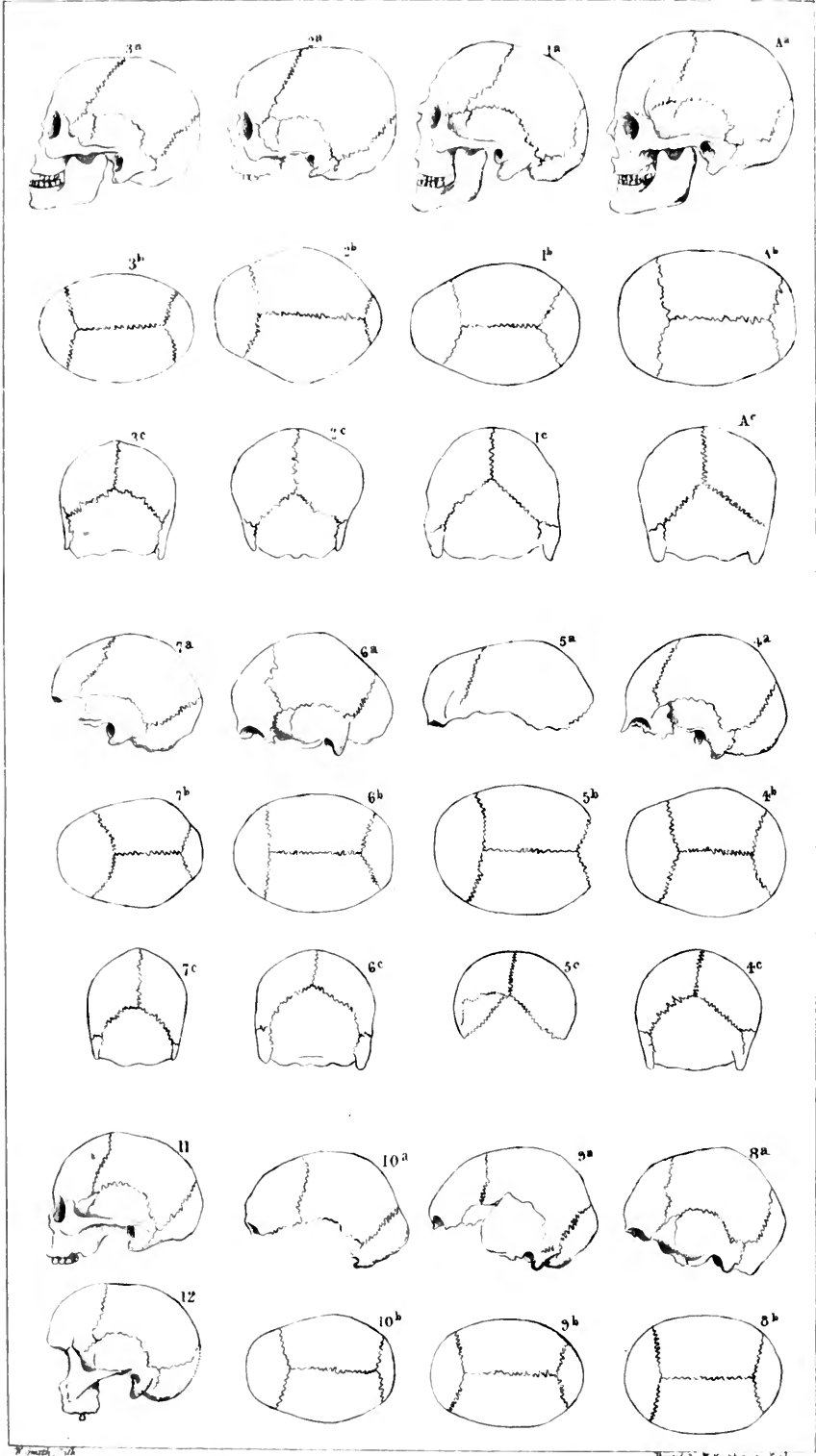


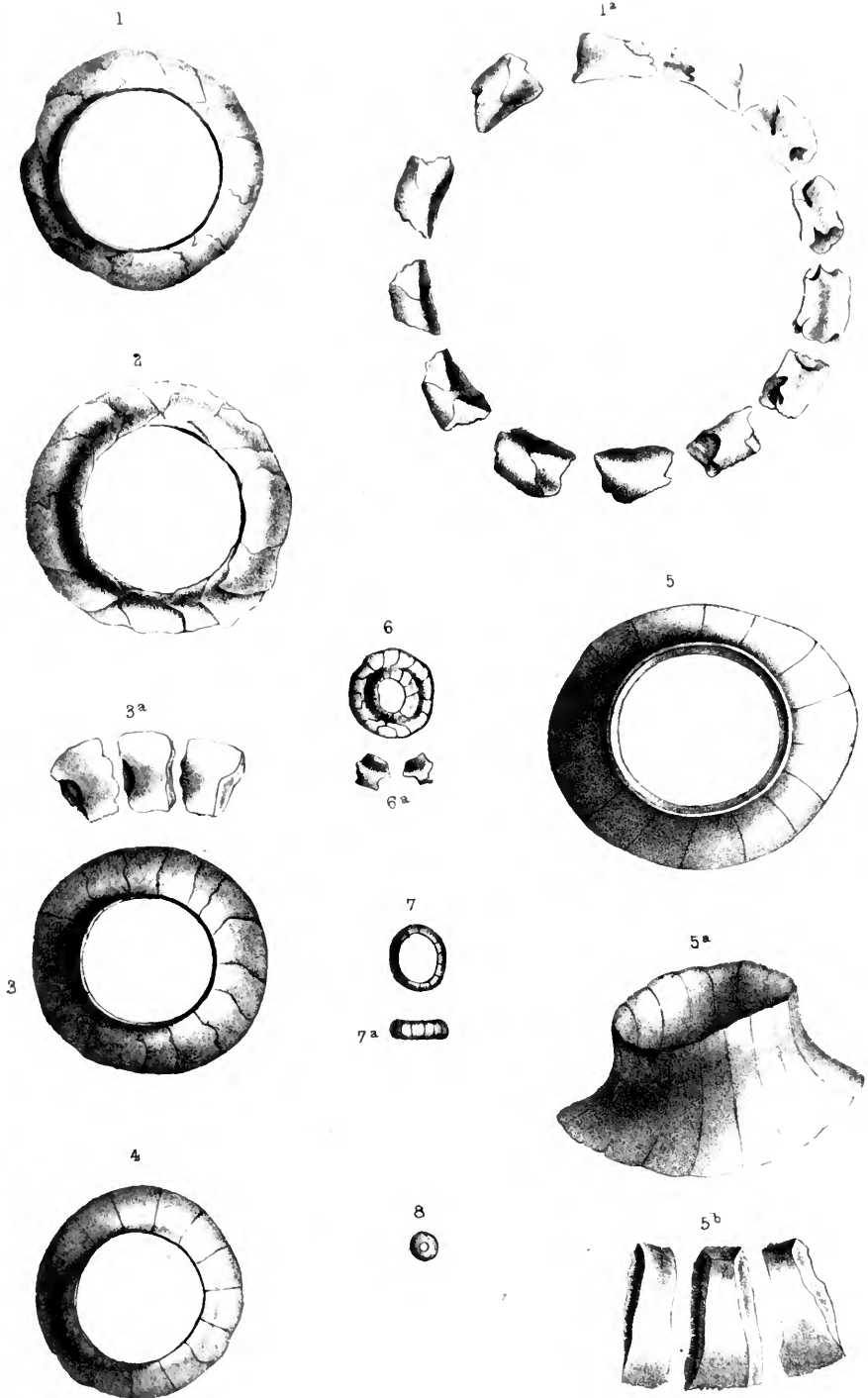
PLATE 101

PLATE 101

*Crania from the Tunnel of Laurel Hill, near York*

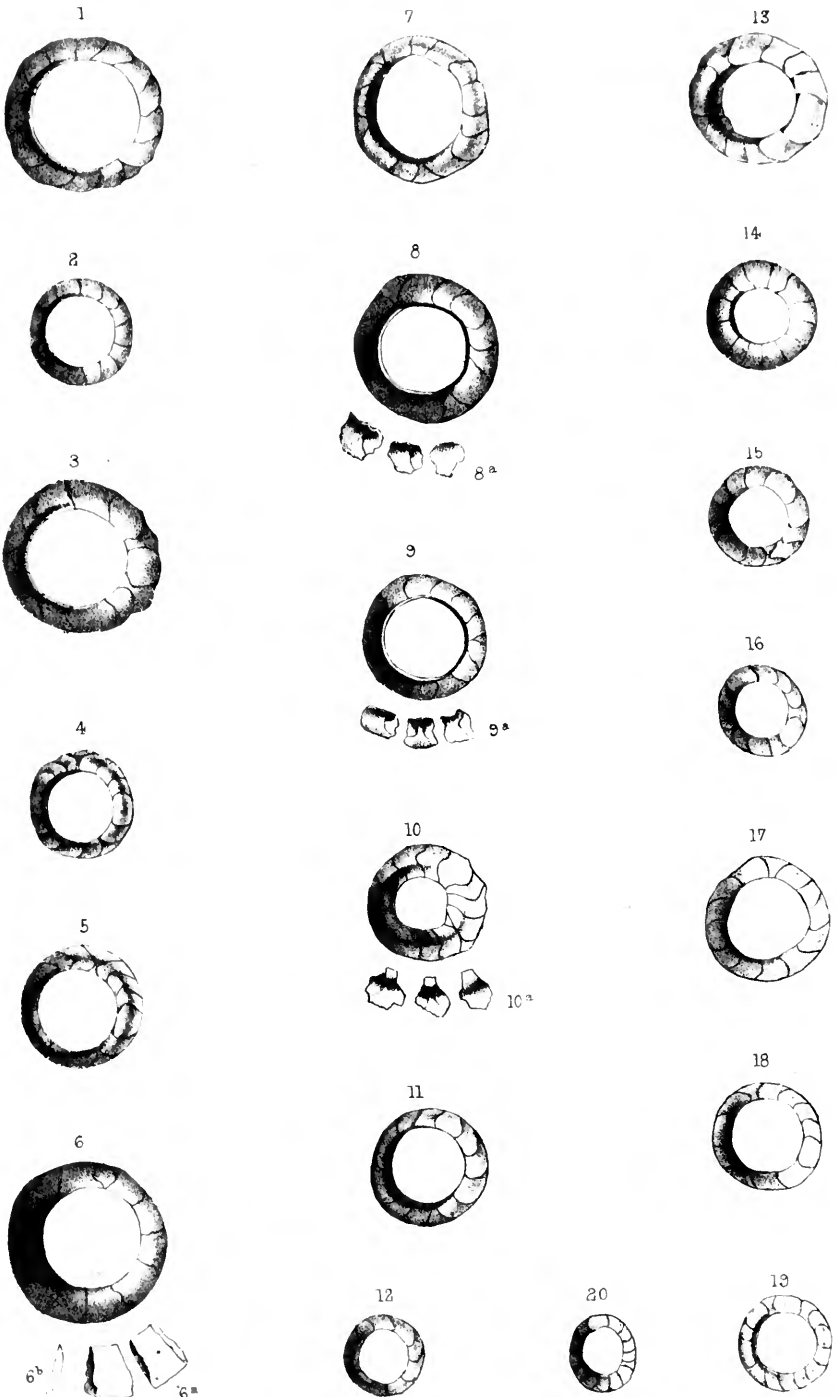


NAT SIZE



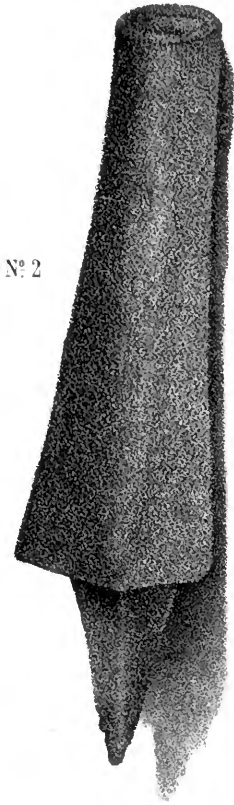


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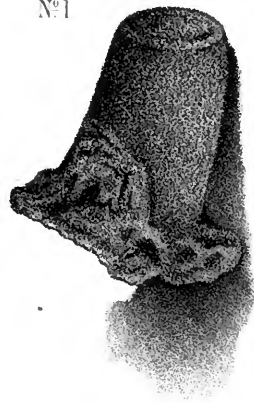




ANCIENT COINING IRONS.

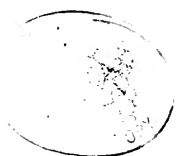


N° 2

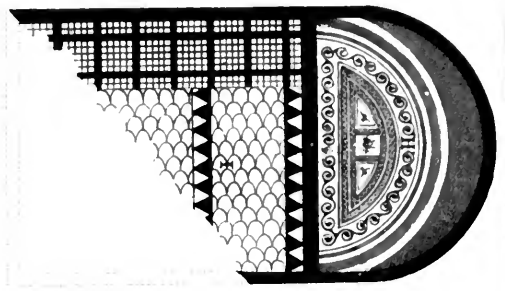
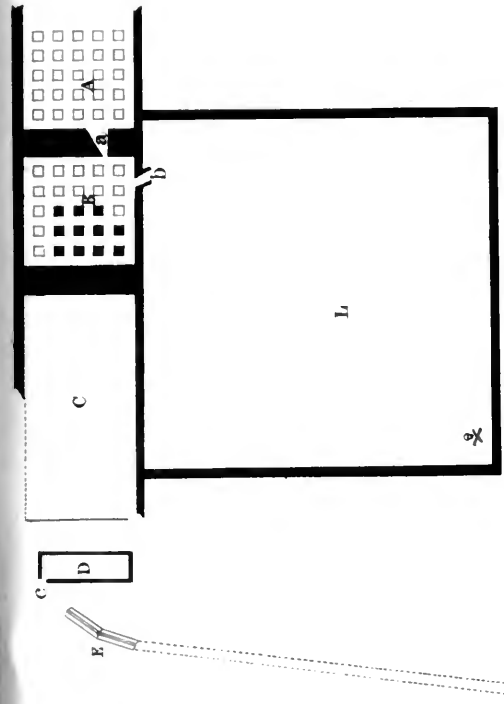


N° 1

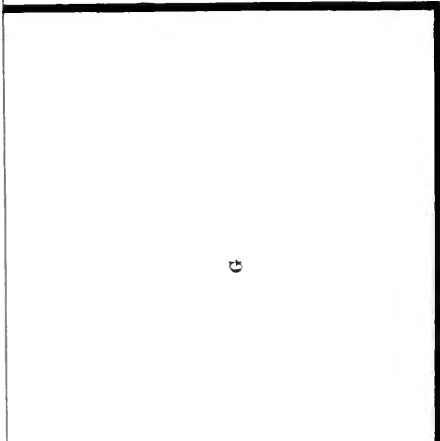
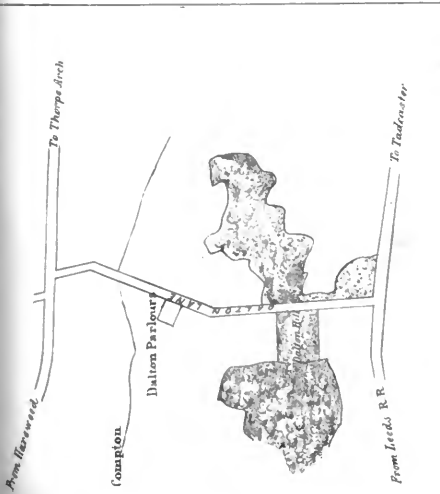
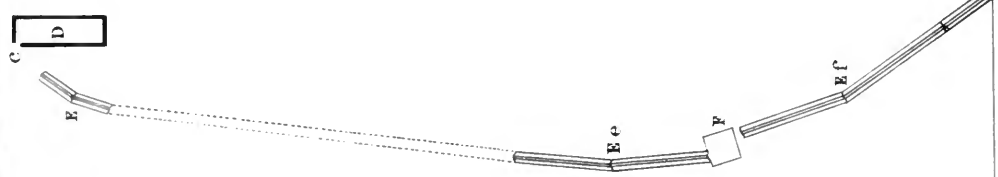
N° 1. *The Upper Die, called Trussell or Punchern.*  
N° 2. *The Lower Die called Standard or Staple.*  
*The drawing is one half the size of the Original.*







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IMPERIAESAR  
 DIVINA  
 TRAIANVS  
 PONTIFEX  
 PONTIFEX  
 PER LEG

Scale

INCHES 1 2 3 4 5 6 7 8 9 10

3 FEET

10  
Dark Blue.





