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LETTERS IN POSSESSION OF YORKSHIRE PHILOSOPHICAL SOCIETY.

Letters in the Possession of the Yorkshire Philosophical Society..

Selected and arranged by SIDNEY MELMORE.

Early in the present year (1942), Mr R. Wagstaffe, the Keeper of Yorkshire Philosophical Societys Museum, discovered there a bound volume of holograph letters written between the years 1822 and 1828 by persons who took an active part in the establishment of the Society and its Museum. Apart from its historical value, this collection of papers is of great geological interest, and I am indebted to him for enabling me to study it at leisure.

The book measures 11 x 8¾ x 2¾ inches and is bound in three-quarter leather, the front board bearing a red leather label with " YORKSHIRE. PHILOSOPH SOCIETY LETTERS " impressed in gilt within a gilt border. It contains one hundred and thirty items, mostly letters, but includes also some of the papers read before the Society during that period : such letters and papers as were read are endorsed to that effect by one of the Secretaries. Among the latter is the original MS. of William Smith's paper " On retaining Water in Rocks for Summer Use," read before the Society on 6th March 1827 and published in the Philosophical Magazine for that year : also the original MS. of Phillips' "Remarks on the direction of Diluvial Currents in Yorkshire," read on 7th November 1826 and published the following year in the same journal.

Before perusing this selection from the letters, the reader may recall at in 1821 animal remains were discovered in the cave at Kirkdale, near Kirby Moorside, on the north side of the Vale of Pickering. The was carefully explored and its contents attentively examined by William Buckland, Professor of Mineralogy in the University of ford, who published a full account in his Reliquiae Diluvianae. lining the first collectors from this source were three York gentlemen, William Salmond, James Atkinson, and Anthony Thorpe. They agreed to combine their collections so as to form the nucleus of a museum, around which the Yorkshire Philosophical Society was formed in 1822, where those interested in geology and archaeology might meet to their mutual advantage and study for the advancement of knowledge.

In the beginning the Society occupied a house situated in Low Ouse-gate: the foundation stone of the present museum was not laid until 1827. The first President of the Society was the Rev. William Venables Vernon (later Vernon Harcourt), fourth son of Edward Vernon, Archbishop of York. The Secretaries during this early period were Henry Atkinson, Eustachius Strickland, and Dr George Goldie.

Letters from Rev. W. V. Vernon to Dr Geo. Goldie. 40 [ ?] Grosv. Sq., May 16th [1823].

Dear Sir,—If the specimens intended for Bristol are not yet gone pray have the goodness to add to them a few which I purchased from Mr [Page 318] Larkwin [ ?] of Malton & put some where in a corner of the Museum you can find them; they are shells, the large Madreporite belongs to this number. There is a sale of the effects of the Surrey Institution at which Salmond & myself shall probably make some purchases of books at loon There is a fine set of the Transactions at large which if they should go very cheap we shall venture upon and there is a set of Parkinson's Organic Remains which we shall bid for. The philosophical world are much occupied with Perkin's discoveries.\* Millington yesterday states the saving of fuel as nine parts out of ten & seems satisfied of the safe of the machine. He accounts for its efficacy upon the principle that the pressure prevents ebullition & keeps the water in close contact with to heated surface of the boilers; but there will be more to be said about I suspect than this. When the confined steam issues from the orifice I am told, the thermometer gives no more than a, temperature of 120 and the centre of the current but 80 which seems to be a fact involving a new law.

\* For a notice of Perkin's Engine see *Phil. Mag.*, Vol. lxi, Jan.-June 1,823; p. 313

Yrs very truly,  
WM. V. VERNON.

The next two letters were read before the Society on 10th June 1823,  
Grosv. Sqre., May 26 [1823],

Dear Sir,—I enclose a Note to Messrs Raper desiring them to transfer £113.: 2 from my account to Messrs S. Tuke & Co which I shall obliged to you to send to the Bank.

I did not purchase for the Society either the P. Transactions which sold for seventy guineas or the Organic Remains which went for £8: 10. For the last I would have bid as far as £9, but the Plates were in some measure defaced by the mark of the Institution. I purchased however Pallas's travels, the two works in French consisting of seven Volumes. Matter [ ?] and two Volumes of Plates & Maps in condition almost new & only injured by the Society's Mark in respect to the Vignettes of the second work (the travels in the South of Russia) for £6 :12. The Committee are at liberty to take or decline them as they please; they are cheap & contain a good deal of Natural History including Geology. also bought on the Society's account Miller Illustrations of the Linnean System, one volume of which consists of coloured Plates and which is good order ; three Volumes fol. for £3 : 10 also Samouelle's Entomology coloured plates for 8 shillings. I have not with a set of philosophical Transactions consisting of 64 volumes Quarto containing them at large for half a century and a more copious abridgement of the former paper than Hutton's for £18 and have no hesitation about buying them for the Society. They come down to 1800, to supply them from that time will cost from £20 to 25 ; but this may stand over.

Salmond & myself have been purchasing some minerals for the Society at an Auction which has been going on for the last week, the purchase may amount to some £30 & we do not propose to go fourth without directions from the Committee unless anything very desirable [Page 319] should offer but we were of opinion that you would not object to enlarge the Society's collection to this amount as a commencement.

I have been looking at the arrangement of the Geological collection at the R. Institution. The shelves are elevated at a much greater angle & the specimens supported by partitions. The shelves are short and made to be taken out. The glass coincides with the divisions of the shelves, the cases are of deal painted oak colour. Would not this be considerably cheaper than oak for our own?

I gave Brown a letter of introduction to Dr Wollaston, who tells me his principles are just but not new, he sent him to Jackson who according to his account agrees with him in the practical part, Jackson sent him to Turner who differs from him. I will get him if I can some lithographic Instructions.

Pray tell Barclay the Bookseller that the Archbishop has no objection to his dedicating his Scripture Atlas to him. I have seen Perkin's inventions which are very promising even though he should not execute all which he undertakes. Wollaston who speaks on the subject with much reserve says that the engine hitherto has only been at play and that it remains to be proved that it possesses the ten horse power which the Inventor ascribes to it. The condensation of the, steam is accomplished by a blast of cold air, the steam passing thro' tubes of a narrow bore subjected to the action of the blast. The phenomenon of the vapour issuing at a heat which the hand can bear appears not new for in one of the early accounts of Papin's digester the vessel burst & the vapour escaping did not scald the person whose head was close to it. It issues with great force & much rarified & is so rapidly cooled down by the rush of cold air which that rarification occasions as to become immediately of a low temperature.

I have a promise of some Hyena's bones from Plymouth limestone on the part of Lady Morley. The relief to the English Catholics will pass without opposition I imagine.

Yrs. very truly,  
WM. V. VERNON.

I send the Society an account of the borings of which I am also promised specimens at Lord Strafford's villa at Richmond thro' the London & plastic clays into the Chalk, the sand above the chalk was so hard as to break all the implements; the first spring was found in the quicksand just, above this, the supply of water obtained is very abundant.

Grosv. Sqre., Monday, June 2 [1823].

Dear Sir,—I find from those here who are experienced in Geological collections from Faraday at the Royal Institution and from Mr Webster at the Geological Society that there is very great difficulty in preserving such collections from dust. Faraday says that a great part of his time is occupied in cleaning the minerals of the Institution notwithstanding they are kept in cases with glass doors & Webster says that glass doors are no protection unless very particular care is taken in their construction; It is necessary to fit them with bevilled planes at all the points at Which they open and to cover the bevilled planes with cloth, so that they [Page 320] may be closely pressed together when shut; and this on the side where the hinges are as well as in other parts; and Mr W adds that unless the dust is excluded the Geological no less than Mineralogical specimens are soon spoilt, the appearance of the fracture which should always be fresh being impaired. The Committee will probably think these suggestion worth attending to in constructing the cases at York where almost as much mischief is to be apprehended from dust as in London. I met M. Brochant the celebrated French mineralogist at the Rooms of the G. Society. He has a geological commission it seems from the French Government to explore the strata of this country & purposes to go north. ward in a few weeks when you will probably see him at York.

I was shewn the other day by Faraday his nine new gaseous fluid some heavier some lighter than water and not mixing with it in all proportions so that it is easy to distinguish them. Chlorine is the only on of these fluids that is coloured, it is heavier than water; the others are remarkably limpid & the fluidity of them all is also remarkable. There have been many accidents of explosion which have deterred Faraday from continuing his experiments at the present high temperature of the air

We shall send the books & minerals we have purchased in a few days by sea.

Yrs. very truly,  
WM. V. VERNON,

The next letter was read before the Society on 11th November 1823

Eaton Hall, Nov. 3rd [1823].

Dear Sir,—Having a long journey to make to Sidmouth and intending to pay a visit on my road there to Mr Conybeare and to see what they have been doing at Bristol I am afraid there is no chance of my returning in time to be present at the next meeting of the Y. P. S. I do not however lose sight of the Society's objects and collect what I can for our Museum.

I have had a letter from Mr Buckland in which he gives me again the Tray maker's address of whom he has himself ordered 8000 Trays for the Oxford Museum. The name of the man is Leaver & he lives at 16 Little Knight Rider Street, he has lately been ill & unable to execute either of, our Orders but Buckland has written to him to expedite both

I had asked the Professor who is better acquainted I believe than a body with the Oolitic series of rocks his opinion as to what parts of that Series occur in Yorkshire, he answers me : " I am glad you have be following up the Oolitic chain in Yorkshire, which I am of

opinion contains only the higher members of that formation, chiefly Oxford Oolite Coral Rag, and Calk Grit, the two former as usual running into e other, and reposing on the latter. Scarbro' Castle affords a good example of their Section, the under bed being Calk Grit which is seen still bet in the Rocks at Filey Bridge & the sandstone of which Rivaulx & Duncomb Park are built as well as Castle Howard. The ferruginous Sand sandstone which you mention full of fossils (at S. Cave) is this same Grit. The .Brantingham and Cave Beds are the superior or Oxford Oolite. I think the Bath & Stonesfield Beds are wanting and replace [Page 321] by Cleveland Coal measures and the only place I know of the Inferior or Bastard Oolite is in the hills above Stokesley where it appears only in a sandy form, but is recognisable by its shells. I think the Calcareous sandstone which forms the great mass of the Hambleton hills is Calc Grit covered by caps of Oolite ; in short it is Bullington Green & Heddington hill over again. I suspect this formation may be recognised also in Lincolnshire, but as yet there is more evidence of the middle and lower Beds of the Oolite formation in that county than of the superior ones. The Galt you have discovered occurs also at Hunmanby just under red Chalk and may be known by its small and transparent Belemnites." Mr Buckland might have added the localities of Knapton & Rillington and I have lately found it opposite Goodmanham on the road from S. Dalton. to M. Weighton and have Sent some specimens of it from that place containing fragments of Belemnites which I beg you to present to he Society : it is mixed with red Chalk). Mr Buckland goes on to say I hat the quarry I had described to him at Hessle promises to be productive of fossils of the Diluvial order & expresses a wish for any intelligence which may arise for his 2d Volume which is to come out in the spring. Mr Murray is going to reprint the former volume immediately to the extent of 1000 Copies in spite of Mr Granville Penn who has just put out a long critique upon it and a rival theory of his own.\*

\* A paper on Penn's theory of the formation of Kirkdale Cave, by James Smithson, will be found in *Annals of Philosophy*, Vol. viii (1824), p. 50,—S.M.

Mr Buckland mentions a new theory also of Stonehenge, by Mr Brown of Amisbury [sic], who contends that Stonehenge is an Antidiluvian Temple, the fallen parts of which were washed down by the Deluge, and as Mr Buckland has shewn that Elephants & other gigantic animals inhabited England at that period, he thinks the Antidiluvians, who were themselves a gigantic People, could have had no difficulty by the aid of a team of Mammoths in transporting the stones from any distance and as England was united to the continent before the flood he is of opinion that Adam retired here after the fall, built Abury, with its serpentine emblems, to commemorate it, and lived and died on Salisbury plain.

I enquired at Trentham about the borings which I had heard at Stittenham had been sent from thence to Lord Stafford and procured them for the Society; they consist of clay or shale to the depth of 80 yards; this is undoubtedly the same stratum which occurs under the oolitic strata at Craike Hill, being there called *Claypenny*, and again at Kirkham Abbey, the *second shale* of Young.

At Trentham I saw the Rib of a large animal, probably Elephant, about five feet long which had been dug up in the Park many years ago & is mentioned by Mott as a Mammoth's bone. Trentham stands on the now Red sand which appears to be in immediate contact with the coal measures without the intervention of the Magnesian Lime. I desired to have a Section of the mines.

Eaton also stands upon the Red Sand; the plain is bounded on the West by the Coal measures and the Mountain lime: here also in passing tom the red sand to the Coal you do not find any Magnesian Lime; besides coal, iron is worked in these measures; and in the Chert & Shale [Page 322] intervening between them and the Mountain lime, as well as in the lime stone itself, Lead in very numerous and rich veins. I was the other three hours under, ground in Lord Grosvenor's mines at Halkin in Flintshire. The

direction of the vein which I visited was from N.E. to S.W. The Strata thro' which it passed

	Yards
1. Shale	10
1. Chert	15-20
2. Shale	8
2. Chert more flinty	8
Sandstone	2
3. Chert harder still	20-30
3. Shale hard black	5
Limestone	

In the last shale is no ore but the vein recurs in the limestone in the same direction & quantity as before, a fact inconsistent I think with the theories of its being either thrown up from below or infiltrated fro above. The galena has here no gangue and does not seem to alter the strata it traverses, except that in the lime it is accompanied with calc. spar. Calamine is occasionally found near it and sometimes lumps of Copper ore.

WM. V. VERNON,

*Rev. W. Buckland to Rev. W. V. Vernon.*  
Deer. 29/22.

My Dear Sir,—Many thanks for your last & the sketch inclosed in it, from which it is obvious that the Rat is of a Post Diluvial Family, whether aquatic or of the land may be ascertained at once by the teeth or tail or Bones of the leg - if you will only set some of the young surgeons in York to prepare a Skeleton of the land & water Rat to be placed in the Institution in the Drawer with the Kirkdale Bones. I shall be happy to see Miss Atkinson's drawing of the individual in the stalagmitic crust, but I think it clear he never had the honor to be carried to his grave by an Hyaena [sic]. I am much gratified to hear you report such good Progress of your institution & hope you will get some fine specimens of the Ichthyosaurus & Whitby Treasures through Mr Bird & Mr Young. There is a very fine Collection at Scarbro' belonging to Mr Hinderwell, an elderly gentleman, which would at once set you up if he could be induced to bequeath it to you, or transfer it immediately wh wd [sic] be much better: by all means make him a Member. Also at Bridlington there is a man who keeps a small museum & has in it some good things for wh he asks enormous prices, among them is one wh he wd not sell me at any price but might give to the Museum perhaps, viz., a portion of a tusk of Elephant found near there, so perfect that it is still hard ivory & several snuff boxes have been made from it. The Residuary Portion shd be rescued *coute qui coute* from such Desecration. It is the only tusk yet found in England in so perfect a state; that of Dr Alderson's I mentioned in my last is nearly as perfect but not quite so. I am glad to hear you are putting yourselves in Correspondence with the [Page 323] Coal Iron and lead Districts & about to visit them yourself. This cannot fail to do much good. In another cover I inclose you a Copy of my syllabus which requires a few local alterations, but in the main is correct. With Regard to the Geological Books for the Society, I hold the following to be the most essential & beyond all Conybeare & Phillips, 2 or 3 copies of it so as to be in constant circulation as your Text Book. 2° Jameson's translation of Cuvier's Theory of the Earth, 2 copies. 3° Geological Transactions. 4° Cornish D°. 5. Cuvier's Animaux Fossiles, the new Edition of wh 4 or 5 Parts are already out. 6 Parkinson's Organic Remains, 3 vol. 4° & his recent essay. 7 Sowerby's Mineral Conchology : to these add Kidd's Geology & outlines of Mineralogy. Bakewell's Geology. Greenough's D°. Smith's Sections of England & County maps published at Carey's & Greenough's Map of England &c. Thomas' Map & report. on the mining district of Cornwall (at Carey's) also Williams' mineral Kingdom. Farey's Derbyshire. Forster's Section of the Strata from Newcastle to Cross Fell. Hamilton's Letters

on Antrim. Townsend's Character of Moses. Mantell's Geology of Sussex. Macculloch Western Islands & Classification of Rocks. Jameson's Mineralogy. Sumner's Records of Creation. Miller's History of the Crinoides. Brongniart's Crustacees. Journal des Mines. D° De Physique. Silliman's American Journal & the English Philosophical Journals of the Day. The above are the principal Books connected with English Geology none of which I think you ought to be without. I could add more but these will do to make a Beginning. There is a Work 8° on the Scarbro' fossils published anonymously 7 years ago. Mr Bird's Book of course you have & as soon as it is ready I shall send the Society my new edition of Kirkdale with the German additions on which I am at the moment busily employed.

Believe me to remain,  
Very sincerely yours,  
WM. BUCKLAND.

Fragment of a Letter from R. I. Murchison to Rev. W. V. Vernon.

. . & in the diluvial rubbish with which it was filled were teeth of Hyena - portions of skull - small bones of rat - teeth of horse - Album Graecum doubtful - Buckland got in about twice his length & burrowed With great energy - his opinion being that the fissure may still lead to a Ova - however the remains were all found near the aperture & were associated with chalk flint and soil and some calcareous concretions - I was one of a party of six from the Society which filled the Maidstone Coach & threw the Kentish Men into alarm.

In haste believe me always, most sincerely yrs.,  
ROD. I. MURCHISON.

I hope to be able to call at York on my return.

There now follow all the letters in the collection written by Young and Bird, authors of A. Geological Survey of the Yorkshire Coast, first published in 1822.. The letters from Bird are addressed to Vernon.

[Page 324] Reverend Sir,—I arrived at home last week from an excursion in the country, your letter had lain at my lodgings till my return. I am totally at a loss how to express my gratitude to you for your kind attention lo my interest, in procuring for me a lithographic press, which I shall he happy to deposit in the Museum of the York philosophical society as soon as I can spare it. On Tuesday last I sent by the carrier from Whitby to York, two boxes of fossils from my own collection as a donation to the York philosophical society ; one of the boxes contains bones of an Ichthyosaurus, the detached bones of one of the paddles is very interesting and as intire as any that have been found in this district. The head being crushed and mutilated was indistinct, but I have packed in the same box two parts of another head, found near the same place, and which appears to have belonged to an animal of the same size and species which together with the other bones will make a good specimen of the Ichthyosaurus. The other box contains impressions of plants and a few fossil shells from the rocks near Whitby. In a short time Mr Young and I intend to send you a series of rock specimens from our district. Mr W. Wetherall having left Whitby to reside in the west of Yorkshire, I have never had an opportunity of treating with him for the remains of his collection.

Whenever I may have it in my power to do anything for the interest of the York philosophical society I shall be truly happy to avail myself of the opportunity.

I remain,  
Reverend Sir,  
Your obedient  
and very Humble Servant, ,  
JOHN BIRD.  
Whitby, Augt. 11th, 1823.

Whitby, Deer. 9th, 1823.

Rev. Sir,—I have been from home several weeks which prevented my answering your letter of the 24th Augt. The bones of the fossil animal which I sent to your society were all found in one place and were got up with a quantity of the aluminous rock attached to them, but it soon fell to shivers and the bones became separated from each other ; the head had been crushed and mutilated when first deposited, some fragments of it were sent amongst the rest of the bones. The other fossil head has belonged to an animal of the same species and about the same size. The head of the fossil animal which I lent Mr Buckland shall be at your service as soon as it is returned. Mr Wetherall has gone to reside in the neighbourhood of Ripon. I saw him a short time since, he says he intends to make a donation of some of the fossils in his collection to your society. We have made a considerable addition to the collection in our museum, particularly of vegetable impressions from Newcastle, and mineral specimens from various parts of the world. There have been no . fossils of any account found at Whitby lately.

I have not received the Lithographic Press.

I remain, Revd. Sir,  
Your very Humble Servt.,  
JOHN BIRD.

[Page 325] The rest of the letters in this instalment are from the Rev. George Young, the author of the *History of Whitby* (2 vols., Whitby, 1817). Some are addressed to Vernon, others to Dr Goldie : a few have no recipient's name attached.

Whitby, Nov. 6th, 1823.

Dear Sir,—I feel almost ashamed to say, that the rock specimens are not yet sent off, as owing to many engagements I have not had time to

arrange them & pack them up. Besides, I have been waiting the arrival of some Boxes of specimens to make the series more Complete.

Being in Cleveland last week, I discovered some spots where the Whinstone Dyke passes through the Alum shale. The effect produced on the shale is just what we might expect : it has the appearance of having been *baked*. So completely is its aspect changed, that though Mr Bird & I had seen one of the places more than once, we had no idea that it was the alum-shale. Some specimens of it will be sent you, some of them containing the organic remains common in the alum shale.

Have the goodness to hand the article written on another page of this sheet to the Editor of the Yorkshire Gazette, or some other York paper, to insert as a piece of literary intelligence. It is not meant as an Advertisement. With best wishes to Mr Salmond, Mr Thorpe, &c.

I am,  
Dear Sir,  
Yours respectfully,  
GEORGE YOUNG.

Whitby, Deer. 4th, 1823.

Dear Sir,—Before this reaches you, you will have received a box containing rock specimens & minerals for the Museum of the Yorkshire Philos Society. I intended writing you yesterday that the box might not get the start of the letter; as some explanation of the contents of the box is necessary; but some gentlemen having called on me just before post-time I was prevented from writing. You will find in the box several specimens of red sandstone, or red marl, and rocks connected with the red sandstone; and a few specimens of the magnesian limestone from Hartlepool & Sunderland; of the lowest shale; of the chalk, and the upper shale succeeding it. You will also find a variety of

specimens of Whinstone or basalt from Longbargh quarry, with several pieces of the alum shale, as changed at that place, by the effect of the Whinstone dyke. In another parcel you will find the Shetland rocks & minerals, which I formerly mentioned, and for which (as I then stated) you will be so kind as pay 10s / 6d to Mr Wm. Cave, engraver, desiring him to put IL to my credit. The remaining contents of the box are part of the present which I have so long promised to your Society. You will observe that they are from the extremities of the district, and I have left the middle to be filled up, by a second box. Whether I can send off the 2d box next Tuesday or not, I cannot positively say; but you may look for it either next week, or the week after.

Present my best respects to Mr Thorpe, Mr Salmond, the Rev. Mr Vernon, and other friends. I was glad to observe that you had lately an [Page 326] interesting present made to your Museum—the head of an Elephant. We have had a handsome Donation of 140 specimens of minerals, late given to our Society.

With best wishes for the success of your Institution, I am,

Dear Sir

Yours respectfully,  
GEORGE YOUNG

N.B. I ought to observe that the labels or descriptions of the rock specimens &c., are inclosed in the several parcels or packets.

Whitby, Jany. 22nd, 1824,

Dear Sir,—You will receive by carrier this week another Box containing Rock specimens of the Yorkshire Coast &c. I have not had time to number & arrange them, any more than those in the former box; but as their localities are marked in the labels or slips of paper accompanying each, they may easily be arranged by referring to the order of the strata as described in the first Part of the Geological Survey—I regret that several blanks remain to be filled up in the series. These, or some of them, Mr Bird and I may be able soon to supply. They are chiefly in the beds between Scarborough & Whitby. Some of the specimens

. this box are not from my own collection, but from that of our Society from which is the specimen of singular Bones of an animal of *Saurian* family. It is a specimen which was Promised to your worthy President, the Revd. W. V. Vernon, to whom & to other friends, press my best respects. There was another specimen, containing fin bones in the *Plesiosaurus*, which Mr V. wished to obtain; but we cannot spare it from our collection, unless we find another of the same kind. With best wishes,

I am,

Dear Sir,

Yours respectfully,  
GEORGE YOUNG,

The following letter to Vernon was read before the Society on 11th January 1825:

Whitby, 21st [December], 1824.

Dear Sir,—You will receive with this a few articles (see Postscript) which our Society can spare to increase your Collection at York. It is likely that we may be able soon, to send you several good rock specimens from Baffin's Island. I ought long ago to have endeavoured to complete the series of rock specimens of our Coast; but as you have got many from other Donors, I should like first to know what are your *desiderata* what parts of the Coast you need filling up in your Series.

Within the last fortnight we have made an interesting discovery, The heads of large marine animals found here are principally of two kinds—the one shewing large eyes, sometimes

encircled with bony plates, and placed on the sides of the head ; the other shewing smaller eyes,

placed near together, on the upper part of the head with two deep depressions in the *cranium* immediately behind the eyes. The former I termed *Ichthyosaurus*; the latter we have hitherto considered as this *Plesiosaurus* of Conybeare ; an animal having longer *vertebrae* than [Page 327] those of the *Ichthyosaurus*, and having *fins* or *paddles* with *phalanges* composed chiefly of oblong bones, shaped like hour-glasses (as in the fin bones of the whale & porpoise &c) instead of the squarish bones which compose the fins of the *Ichthyosaurus*. Having imperfect fins with these oblong bones, we considered them as portions of the fins of the *Plesiosaurus*, and assigned them to the same kind of animal that has the small eyes, placed on the upper part of the head. A head of this kind having been found by Brown Marshall, in the cliff near Whitby, and shewn to me, I directed him to be very particular, in his further researches on the spot, not only to obtain the *vertebrae*, but the fin-bones, being very desirous to procure entire fins of the *Plesiosaurus*. This indefatigable collector, in the course of a few days, got out, with no small labour and danger to himself, the whole of the bones belonging to the animal, and was able to lay them out in the form in which they had been embedded in the alum-rock. But when I went to survey the supposed *Plesiosaurus*, judge what was my surprise, when instead of an animal with *fins* for swimming, I found one with *legs & feet*, adapted for walking: instead of a fish, I found a *Crocodile*. My attention was presently directed to some peculiar markings on the body of the animal, some of which were arranged in *square compartments* which B. Marshall had supposed to be fin bones; and I soon ascertained them to be portions of the *scaly crust* of the *Crocodile*. This highly interesting specimen was of course presently secured for our Museum, where it is now deposited. It is 14½ Feet in length, lying in a curved form, nearly semicircular. A more particular description of it may be afterwards sent you : but I may add that the *vertebrae* are more oblong than those of the *Plesiosaurus*, and their number appears to correspond nearly with that of the *crocodile*, there being 34 *vertebrae* in the tail of the animal. Those of the body are partly concealed in the mass.

As we have two other specimens of the head, & part of the bones, of what is now ascertained to be a species of *crocodile*, we have resolved to sell the largest of these two specimens. If our finances would have permitted, it would have given us pleasure to have presented it to your Society, but being in debt, we find it most proper to sell it, to enable us to pay for the other. The price we put upon it is £5 and if your Society would like to purchase it at that price, it would be forwarded by the waggon without delay. It shews the head, with the sockets for the eyes very distinctly, but part of the snout is wanting, though it is more entire in this respect than our new specimen. It is in a large lenticular mass, partly pyritous, shewing also many of the *vertebrae* arranged in a curved form, with some other bones.

I ought some time ago to have written to you, or to the esteemed President of the Society, the Rev. W. V. Vernon, to say that, according to Mr V's desire, I applied to Mr W. Scoresby on the subject of his delivering a Course of Lectures on Magnetism at York : but that he is engaged in close study, in preparing for holy orders, he declines entering into any more lecturing engagements. With best respects to Messrs.

Vernon, Thorpe, Salmond, &c.

I am, Dear Sir,  
Yours truly,  
GEO. YOUNG.  
1949 December.