Charles Lyell to G. A. Mantell

[ 28 Nov 1827 ]

My dear Sir

[*]¹ I have often wished to be able to send you some good specimens from our Scotch recent freshwater formations but have never till this last year been able to procure any soft or rock marl with seed vessels of charae & stems which form the most perfect analogy to the Isle of Wight beds. I have now a few specimens but hope to add still more next spring if not before. In a small piece of the freshwater limestone you will see my modern gyrogonites & I believe the stem consisting of a tube surrounded by small tubes beautifully exemplified.

I have put in several specimens of the rock as they might be useful as duplicates. In the soft foliated argillaceous marl you will find (if in luck) the elytra of coleopterous insects besides gyrogonites a circumstance of the more interest because they occur low down in these recent deposits & afford an analogy to the 1.ᵃ & 2.ᵈ freshwater formations of M. de Serres in S. of France as also in the lignite beds in the submarine forest of the Suffolk coast.[*]

The following is a section of the deposits in my father’s diamond lake, Kinnordy, of perhaps 300 square acres Scotch.

¹ Text between asterisks is quoted in Wilson, Charles Lyell, 1972, p. 183.
The laminated clayey marl which I send is No.5.[*]² Is not this a good modern analogy? All the organic remains are living Forfarshire creatures.[*]

The rock marl as you know from the Geol. Trans.³ is from another lake.

I think I recollect your expressing a wish to have some specimens of primitive rock. I have only put in one or two but shall be happy to get you more if they would be acceptable.

I kept Lamarck so unreasonable a time with the intention of buying a copy & transcribing into it some marks which I had made with a pencil in yours. This I have now done & hope you have not wanted it.

Murchison will get your copy of Fitton's paper⁴ or a new one from him forthwith.

² Text between asterisks is quoted in *ibid.*, p. 184.
³ The reference is to Lyell's Paper on Freshwater Marls, *TGSL*, 1829, 2(1), series 2, pp. 73-96.
Nov 28 1827.
Temple
9 Crown Office Row

[ Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex ]

My dear Sir

I was very sorry to find you had been seriously ill & had become anxious at not hearing.

I fear your renewal already of professional studies cannot be quite prudent. The sick house which you mention would have made me doubt the propriety of paying you a visit at present, if the concluding invitation did not appear so earnest & was not put upon the score of its being beneficial to you as you are good enough to say my Article was. I had fully resolved to pay you a visit this season but had fixed no time merely supposing it would be in better weather.

The subject on which you would be interested in Geol. to exchange opinions & ideas upon at present are so fully engaging my mind in consequence of a work I have in hand that I should not want the better motive of being the companion of a sick friend, to be induced to pass a day or two with you. I will be with you on Friday next by some coach or other. Trusting

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1 On 8 and 16 October 1827 Mantell recorded in his Private Journal that he was very ill with a tumour in the groin. His next entry, dated 10 December 1827, indicated that he was recovering after a severe disposition lasting several weeks.
you will write if anything whatever in your domestic concerns & arrangements should make this inconvenient that you will write & fully explain it.

I will also write if anything should impede my notion.

If I do not hear from you nor you from me expect me on Frid.\textsuperscript{y} by a day coach.\textsuperscript{2}

With best remembrances to Mrs Mantell believe me ever most truly yours

ChaLyell

[Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex]

\textbf{42}

Charles Lyell to G. A. Mantell

[ 29 December 1827 ]

My dear Sir

\textsuperscript{2} Mantell’s \textit{Private Journal} records that Lyell visited him on Friday 14 December when all his children were ill with hooping cough. On Saturday, 15 December, Lyell examined all of Mantell’s chalk fossils and they sat up very late conversing on geological subjects. On 16 December the two men drove to the Rocks at Uckfield. Lyell returned to London on 18 December, \textit{GAM-PJ}, entries 14-18 December, 1827.
I am on a visit here to an uncle where some of my sisters are staying & for a short session am to be in a continued round of dinners & balls but shall at least secure a half hour in writing to you from these amusements. I hope Dr Fitton & Mr Murchison has said something to you about filling up the map of Sussex & certain corrections of greensand etc near Portsdown Hill. When I returned I found on enquiring that my clerk had never taken your last present to the President but only Murchisons but I sent it forthwith.

Your box arrived safe & I will send some of the specimens to Dr Fleming others I think I can supply him better ones of from the duplicates of your former liberal donation to me.

I marvel less at Dr Toulmins anticipations (as I supposed them) in Geol. specifications now that I observe he followed Hutton & cites him. I think he ran unnecessarily counter to the feelings & prejudices of the age. This is not courage or manliness in the cause of Truth, nor does it promote its progress. It is an unfeeling disregard for the weakness of human nature for as it is our nature (for what reason Heaven knows) but as it is constitutional in our minds to feel a morbid sensibility on matters of religious faith I conceive that the same right feeling which guards us from outraging too violently the sentiments of our neighbours in the ordinary concerns of the world & its customs should direct us still more so in this. If I had been Sir A. Campbell I would have punished those Christian soldiers who dug up the idols of the Burmese temples in the late campaign & sent them home as trophies.

To insult their idols was an act of Xtian intolerance & until we can convert them should be penal. If a philosopher commits a similar act of intolerance by insulting the idols of our European mob (the popular prejudices of the day) the vengeance of the more intolerant hand of the

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1 Text between asterisks is quoted in K. Lyell, LLJ-CL, vol. 1, p. 173.
2 Captain Gilbert Heathcote R.N., who married Ann, the sister of Lyell’s father. Ibid., p. 13.
3 Text between asterisks is also quoted in Wilson, Charles Lyell, p. 185, until the asterisk after the word ‘balls’.
5 Toulmin’s name was excluded in this quoted extract in Ibid., p. 173 and the space left blank. George Hoggart Toulmin (ca.1750 - 1817), was an English theologian and writer who theorised on the indefinite antiquity of the earth. Sarjeant, G &H of G, vol. 3, p. 2280.
6 James Hutton (1726 - 1797). Scottish geologist. Author of Theory of the Earth, with proofs and illustrations, 2 vols, Cadell and Davies, Edinburgh, 1795.
7 Sir Archibald Campbell (1769 - 1843 ). British General who defeated the Chief of The Burmese Army in 1825 and dictated terms of peace 1826. Governor of British Burma 1826-1829. DNB.
ignorant will overtake him, & he may have less reason to complain of his punishment than of its undue severity. I got well laughed at for telling of the membrana nictitans of a fish as fishes have none? What have you to say to this. I suppose I mistook you & said so to those who laughed at the idea at my expense? You will be glad to see in the last Linnean Trans. the tables so completely turned on the gardeners & seedsmen by the zoologists & also a paper with plates on testudines.\footnote{In the Transactions of the Linnean Society of London, 1827, XV, eighteen of the twenty five papers concerned zoological and not botanical subjects. The paper on testudines was by T. Bell Esq., ‘On two new Genera of Land Tortoises’, pp. 392-401.}

After all my memoranda I came away without the green board for pasting on shells – your specimen of breccia (diluvium) from a fissure in Hastings sand near Lindfield interested me much for such fragments of chalk where none are strewed over the country seem to indicate that when the mouth of that fissure was first opened there was more chalk near? Was the chalk ever continuous from N. to S. downs? Or were not outliers at first left all along?

I sincerely hope you will be able to send me a more favourable report of your own health & that of the rest of the family than when I was with you. I return to town in a day or two.

believe me most truly yours

ChaLyell

Southampton, Dec. 29. 1827

[ Addressed to: G. Mantell Esq., Castle Place, Lewes. Sussex ]
My dear Sir

I should be very glad to hear how you & your museum animals at home have been going on since I last left Lewes as it is now a long time that I have been expecting some news from you.

[*] The best I can send you is the safe arrival in Bedford S.\(^1\) of the Ava fossils of which you see a brief account in Jamieson’s last Journal from the Calcutta Gazette. To say that they surpass in value any collection ever brought to Europe from any other quarter of the Globe is to say little. In a few days the Embassy have done us a service which a man’s lifetime might have been deemed well bestowed in rendering.

Crawfurd\(^2\) late Governor of Singapore F.G.S. & author in our Trans.\(^3\) was sent Ambassad.\(^4\) to the Burman King. On his return from Ava, down the Irriwaddi which they descended in a steam boat they were detained many days in Lat.21 N. the river having been half dried up & the boat stranded. There was a line of hills on each side. between the river & the hills an irregular sandy lowish region (about 300 ft. above the sea) all over the surface which was nearly bare silicified fossils sticking up whose weight perhaps had resisted where loose sand & gravel washed away. Crawfurd employed his servants & bribed the natives to collect & they filled 12 chests!! Almost entire jaws of a new species of Mastodon as big as an elephant! different from the 5 species described by Cuvier, smaller teeth of mastodon Clift says may be young ones of same. Silicified ivory tusk. teeth of rhinoceros (Qy. a new one) – fragment of a bone of Hippopotamus. jaws & skull of an enormous Gavial, Jaws & teeth of an alligator – large scales &c of Tortoises. Shells apparently freshwater – only one species, Sowerby says a Cyrene. Wood trunks of trees, monocotyledons & perhaps dicotyledons – no botanist has seen them, structure beautifully preserved. As are all the teeth &c. They appear to me to have been all converted into a ferruginous chert while most of them were quite perfect, both bones & plants. Jamieson is wrong in saying they are not at all rolled. They are in some instances slightly rounded by attrision [sic], done of course when in a soft state. Inside the hollow trunks & adhering to the bones is a ferruginous gravel exactly like Tilgate aggregate

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1 Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, pp. 175-177.
2 Sir John Crawfurd (1791 - 1862). Visited Ava to negotiate a treaty ending Britain’s first Burmese war. *DNB*.
The whole room & yard in Bedford S. looks as if it were filled with magnificent Tilgate fossils. They are of a yellow ferruginous colour. Saurians lying in all directions, here an immense femur there a long stem like Clathraria Lyelli, here the scale of a large Tortoise. There a shell & teeth of alligator &c &c. They will be exhibited tomorrow & Buckland is expected to lecture on them in the Evening after the Anniversary dinner. Jan. 15th.

With my remembrances to Mrs Mantell believe me
very truly yours. [*

ChaLyell

Temple
Jan. 17. 1828.

[ Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex ]
knows. Every one is enquiring about Ad. Brongniart but no number arrived.

[*]8 I have been out of town for 10 days in Hants with some of my family (2 sisters) who are there on a visit from Scotland. We also went to stay at Dr & Mrs Bucklands at Oxford. The Canon has a glorious house & [*] but for the daily everlasting chapel going & long chants [*]9 is admirably set down for himself & geology.

I at first intended to write Conversations on Geolog.7 It is what no doubt the book-sellers, & therefore the greatest number of readers are desirous of. My reason for abandoning this form was simply this that I found I should not do it at all without taking more pains than such a form would do justice to. Besides [*]10 I felt that in a subject where so much is to be reformed & struck out anew & where one obtains new ideas & theories in the progress of one’s task when you have to controvert & to invent an argumentation, work is required & one like the Conversations on Chemistry11 & others would not do.[*]12 It should hardly be between the teacher & scholar perhaps but a dialogue like Berkeley’s13 Alciphron between equals. But finally I thought that when I had made up my own mind & opinions in producing another kind of book I might then construct convers.* from it. in the meantime there is a cry among the publishers for an elementary work & I much wish that you would supply it, anything from you would be useful for what they have now is positively bad for such is Jamieson’s Cuvier.14 [*] I will send Toulmin very soon. My absence has made me in arrears in reading.

[*]15 Buckland has been very quiet as yet as to the manifold difficulties of the Ava fossils but will no doubt hold forth at the general meeting.[*]

The Stonesfield didelphys came out & I will tell Broderip to send it for you.

I am very glad to hear your health & Mrs Mantell’s is improving. As I have a world of things to do after this long truancy, I shall conclude. I

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8 Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol.1, p. 177.
9 Text between asterisks is quoted in *ibid.*, p. 177.
10 Text between asterisks is also quoted in Wilson, *Charles Lyell*, p. 186.
12 Text quoted by Wilson on p. 186 ceases at this point.
13 George Berkeley (1685 - 1753). Bishop of Cloyne. His work *Alciphron* was published in 1732. *DNB*.
15 Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, p. 177.
should be glad to lionize your friends the Trevors⁶⁶ over our Chaos [. ] if you give them a little though, the want of glass cases makes it very uphill work. How different in your Museum & Buckland’s!

yours most truly
ChaLyell

[ Addressed to: G.Mantell Esq. Castle Place, Lewes, Sussex ]

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Charles Lyell to G. A. Mantell

Sund.⁷ 17th. Feb.⁷ 1828

My dear Sir

I would have sent Toulmin with a note which I had written last week but I forgot that Thursday was the last day that it was to have gone to Oxf.⁷ St. so I will now send it with a letter.

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⁶⁶ In his Private Journal Mantell mentions visiting his friends, General and Mrs Trevor of Glynde Place, Southover, three times during the period 30 October 1826 to 4 May 1834. Following the death of John Trevor Hampden, third Viscount of Hampden, in 1824, the estate passed to General Brand who took up the name of Trevor. T.W. Horsfield, The History and Antiquities of Lewes and its Vicinity, 2 vols, J. Baxter, Lewes, 1824-1827, vol. 2, pp. 114-117.
I had hoped that you might have been here at the Anniversary which was well attended in spite of the snow. At Fitton’s right & left were the Presidents of the Royal & Astron. The 2 Professors of Oxf. & Cambridge also attended & others of the best men. The Even. discussion on the Ava bones was improving. Buckland reconciled all to his diluvium hypothesis, as what facts would he not, but be his theory wide of the mark or not, he is always worth hearing.

They think the remains thus hastily picked up belonged to from 10 to 20 individuals of the genus Mastodon to begin with a pretty good haul. It was larger & quite different from the largest European Mastodon. The rest of the menagerie is rhinoceros, hippopotamus, ox #, deer, gavial Alligator (very large), trionyx – turtle (gigantic), horse? doubtful – shells supposed to be a cyrene & very like a species now living in the Estuaries of Indian, nay in the

# & a Nil Ghan?

Irrawaddi, river. Buckland gets over the shells by saying that Crawfurd is not clear that they were in the same continuous stratum. The associated wood is monocotyledous & dicotyledous all the former is silicified or agatized – very little of the latter, but this is converted into carb. of lime. Their theory being that there is much silex naturally in caves, palms, &c & this attracts silex. ##

[*] The Mosaic deluge of course did all this. None of the species are positively identified yet with any known diluvial animal.

[*] The bones are never silicified. They are charged with hydrate of iron not more so it seems than some diluvial bones possessed by Buckl & Sedgwick. Be it so – then modern post – diluvial causes as you suggest can do every thing, at least as far as mineralising is concerned. [*]

Crawfurd promised you some bones & wood a month ago & I will keep an eye on it. Many will be given away for we are breaking down with their weight. Did I not tell you that the Annington fossils cannot be procured. At least no one knows how.

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1 William Henry Fitton was President of the G.S.L. from 1827-29. Woodward, *History of the GSL*, p. 286.
2 Rev. W. Buckland and Rev. A. Sedgwick.
3 Text between asterisks is quoted in Wilson, *Charles Lyell*, p. 186.
4 Text between asterisks is quoted in *ibid.*, p. 186.
5 Text between asterisks is quoted in *ibid.*, p. 187.
Murchison & I are working hard to redeem the Scotch part of the Soc.'s collection which you justly say is chaotic, from great confusion. We have done half & it is a beautiful series. Think of the Hastings or Weald fossils being so decidedly on the uppermost beds of Skye! these of the same species & associated with other freshwater shells! for I think you have not a neritina? You will be able to refer to this in Murchison’s paper which will be out soon.

But as to our collection you must know that Greenough undertook to arrange the whole & worked assiduously till he got it into the state of confusion in which you now see it. But Greenough is gone abroad & Webster is engaged as lecturer & we shall see better days very soon. Hesiod the first cosmologist whom we know says that black night was born of Chaos & that from night sprung day, a curious pedigree, but I hope we shall see it realised in Bedfor S.

Crawfurd has since told me that Buckland is wrong, that there is quite as much silicif. wood & that turned into carb. of lime the botanists say is not wood! A fine theory thrown away.

If half that Daniell says in his paper in Brandes Journal vol.4, p. 227 on the Rottingdean formation be true it is a most curious page in Geolog. history of modern date.

I was very glad to hear Mrs Mantell was recovering & expect to hear ‘the bright side’ soon.

There were many brilliant effusions of eloquence at our dinner, but none equal to a high mathematical flight of South, the astronomer, at their anniversary for he said that the society of Sir W. Herschell [sic] & his son formed together a circle of which the centre was everywhere & the

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7 Hesiod (ca. 8th Century B.C). Greek poet who wrote a number of epics dealing with mythology, geography and astronomy.


John Frederic Daniell (1790 - 1845) was a physicist. FRS 1813. DNB.

9 The Quarterly Journal of Science, Literature and the Arts, published under the auspices of the Royal Institution of Great Britain, and edited by William Thomas Brande (1788 - 1866). DNB.

Temple.Lond. n Apl. 11.
1828.

My dear Sir

I will send this letter to Woods & beg him immediately to forward it either by Post or with Ad. Brongniart’s 1st N. which I perceive you have not received with my note explaining why I had been so long in writing. In fact I had been out of town for a great part of the time, tho’ the only news I had to communicate was my intended tour to Auvergne with Murchison. I hope to get away by the 1st week in May, but shall have difficulty in so doing as [*] I am much pressed in completing some literary business [12] which I had promised to assist a friend [*] in (not geologising) before my departure for Paris. When I first read a few lines of your note I began to hope what my dreams often turn to, to hear that you had discovered the mammiferian animal which I intend you to find some day before you have done, in the Tilgate beds.

The division of the Ava spoils does not seem to approximate, and unless our move to Somerset H. should accelerate it I see no chance of its being done speedily.

I have not a doubt that an immense deal will be done in the Brighton Subappenium breccia or diluvium of the Crag epoch, or marine diluvium of

[Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex]

Charles Lyell to G. A. Mantell

1830. DNB.
11 Text between asterisks is quoted in Wilson, Charles Lyell, p. 188.
12 The literary business concerned a review by Lyell, in conjunction with his father, of Gabriele Rossetti’s edition of Dante’s Divine Comedy, Ibid., pp. 187-188.
Dr Fleming whenever you go to Brighton & this would reconcile us to your crossing the Chalk which would in other respects diminish our chance of being acquainted with the limestone contemporaneous of the Iguanodon.

By the way have you seen Dr Flemings British Animals\textsuperscript{13} one vol oct.\textsuperscript{o} Mammal\textsuperscript{a}, Aves, Amphib., Pisces & Mollusca. fossil species arranged with recent & a new sketch of geolog.l strata divided according to zoological epochs? It is too great an undertaking not to lay him open to the cavils of critics here & is in many respects imperfect but it has much merit & is an example in the right road. I do not know the price as he sent me a copy but there are no plates & it cannot be dear for the quantity of matter.\textsuperscript{14} I think you will be satisfied with A.B.’s first No.\textsuperscript{15} tho’ the fuci are the least interesting perhaps.

Believe me with kind remembrances to Mrs Mantell
yours very truly
ChaLyell

P.S. I fear I shall only be in Paris 2 days. Murchison a fortnight.

[ Addressed to: G.Mantell Esq. Castle Place, Lewes, Sussex ]

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\textsuperscript{13} John Fleming, \textit{A History of British Animals, exhibiting the descriptive characters and systematical arrangement of the Genera and Species of Quadrupeds, Birds, Reptiles, Fishes, Mollusca and Radiata of the United Kingdom}, Duncan, Edinburgh, 1828.


Charles Lyell to G. A. Mantell

Ap. 21. 1828

My dear Sir

I paid £1-8-0 to Sowerby for 2 livraisons which he says B. has the shabbiness to insist on having paid for. But as he is not to go on unless 150 copies sell & as I hear 16 only are sold in Paris or rather France I suppose A.B. is obliged to adopt some precautionary measures. Germany I hear has bought 40 copies.

Pray send to Dr Fleming your work [.] I will convey it to him.

I will also take a small parcel to Paris & think C. Prévost well worthy of preference.

If your list of fossils¹ comes up I doubt not they would print it in next vol. I spoke to Fitton on the subject. I agree with him that the great value w. arise from your accurate local knowledge for you are the only great collector in England who combines Geol² with fossils, so if your list is general put a mark on what you can answer for from personal observation.

There was a crowded meeting on Friday. More than £400 subscribed towards expenses of moving into Somerset House.

Clift's² Paper on Ava Bones & drawings magnificent, best thing of the kind I have seen in Eng.³ Shaft’s⁴ [sic] lithography infinitely superior to Ad. Brongniart’s. Buckland’s paper⁵ on same & his discussion or lecture excellent. Too much of the unfortunate diluvium theory mixed up with the Ava bones.

I should be much obliged to you for a few of the Plates you speak of. I

² W. Clift, ‘On the Fossil Remains of two New Species of Mastodon and of other Vertebrated Animals, found on the left Bank of the Irawadi’, [18 April 1828], TGSL, 1829, 2, series 2, pp. 369-376
³ George Scharf (1788 - 1860). Bavarian born lithographic artist who arrived in London in 1816. DNB. He was the lithographer for the plates accompanying Clift’s paper (note 2, above).
hope to get away by the first of May. Murchison went yesterday.

Sedgwick has offered to join Conybeare in the 2.\textsuperscript{d} vol. of Brit. Geol.\textsuperscript{y} Phillips\textsuperscript{5} being dead & he says he will travel expressly for it for 2 years.

Pentland has found 4 new quadrupeds among Colebrook's\textsuperscript{6} Indian specimens in our Museum, one an anthracotherium. He has found magn.\textsuperscript{m} limest. in Andes at greater height than M. Blanc, full of fossils, & sand, loose with recent living shells of the W. Ocean raised up in Peru to more than one thousand feet so much for modern causes! & repeated shocks of earthquakes like the Chileans!

in haste yours very truly

ChaLyell

Temple Ap. 21. 1828

[The following sentence was written in the upper right hand corner of the first page.]

Answered & the 28/- with 1 Copy of South Downs Fossils & 2 Tilgate. April 24. 1828.

[ Addressed to: G.Mantell Esq. Castle Place, Lewes, Sussex ]

Charles Lyell to G.A. Mantell

[ 3 May 1828 ]

My dear Sir

Allow me to return my thanks & warmest acknowledgements to

\textsuperscript{5} Conybeare’s co-author, William Phillips, died on 2 April 1828. \textit{DNB}.

\textsuperscript{6} Henry Thomas Colebrooke (1765 - 1837). A member of the Supreme Council of Calcutta who also wrote on the geology of India. Woodward, \textit{History of the GSL}, p. 67.
Mrs Mantell and yourself for the joint present which you have made me & which I assure you I shall value doubly both for its contents & for the regard I feel for the donors.

I have been too much engaged with the business\(^1\) that prevented my accompanying Murchison to Paris to write before & say that I should be happy to take the things sent by you to Paris for which I shall leave town the day after tomorrow. Murchison writes me word from Paris that he has been very handsomely received by all the savans in Paris & has learnt that the plant which formed the roof of the Brora Coal was an equisetum of which I believe you have Ad. B.’s figure in the last plate of your first livraison. Konig has published it under another name & denied I understand its affinity to equisetum & will be sufficiently annoyed at a note in Murchison’s paper, the paper of him who has always cried him up as his magnus Apollo – et tu Brute.

Broderip says he will digest the vegetable as Ancient Pistol\(^2\) did his leek. But it is capital for M. that this very species is known as a lower oolite fossil on the continent.

Conybeare is up here[.] there is some hope of Sedgwick joining him in 2.\(^d\) vol of Eng.\(^d\) & W.

I hope you will not hesitate to send up your list of fossils immediately; don’t lose a day & I hope those fossils are marked which you can answer for.

I have little doubt it w.\(^d\) appear in next vol as I have given my opinion it should but whether or no, send it up & do not in your letter say anything about former delays & queries &c for which God knows neither Fitton nor any of the present active members have to answer & the work they have to do & the time they lose about the Soc.\(^3\)\(^5\) concerns is enough to tire any one’s patience & make me doubt whether Geology gains or loses most by the existence of a Soc.\(^7\)

I shall only have a day in Paris but will deliver your presents &c. remember me to Mrs Mantell & believe me ever most truly yours

ChaLyell

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\(^1\) See foot-note 2, letter 46.

\(^2\) In Act V, Scene 1 of Shakespeare’s, King Henry V, Pistol was cudgelled by Fluellen and made to eat a leek.
Charles Lyell to G. A. Mantell

Bains du Mont Dor June 15 1828

My dear Sir

I was so hurried in passing through Paris that I could not write to you to report progress in my endeavours to procure some models for you of Cuvier’s fossil animals. I had not time to go to quarries myself but left word with Prévost to buy a jaw that we heard of as just found in one of the gypsum excavations.

I did not get a sight of Cuvier but requested his daughter M™. Duvansel¹ to take me to the workshop where Lauriller² [sic] manufactures the casts. He would not sell me any under the ruse on his own account & when I afterwards let out they were for you he said that if Cuvier knew you were so anxious he w.³ have given an order to him & that at all counts it would be as much as his place was worth to sell any to you when they owed you for fossils &c already. He promised as soon as he had leisure to make casts for you & that I should have a box on my return in 2 or 3 months. As the colouring is a long affair, I told him he might put some up uncoloured. I hope therefore when I return to be able to get something if not I will make Cuvier promise some, & keep Lauriller [sic] to his word.

¹ Miss Duvansel was the daughter of Cuvier’s wife by a former marriage. K. Lyell, *LLJ-CL*, vol. 1, p. 125.
When I have fixed the time of my return to Paris I will let you know that you may give me a letter at the Poste Restante there. At present we know so little whither Geology may lead us & hold ourselves so unshackled that I cannot tell you.

[*]³ We have been here a whole month, (Murchison & I) working hard in a lacustrine formation that I have often thought of your neighbourhood and of you & assure you that our respect for what Humboldt⁴ calls sweet-water formations is greatly enhanced & even the importance of your Hastings series where the joint efforts of fluviatile & marine agencies were combined shrinks into insignificance when compared with what a series of purely lacustrine sediments here exhibit. There is our grand system of Horsham grits which cut a fine figure & might with their associated oolites bear a comparison with some of the first rate members of our oolitic series & other divisions more than a thousand feet thick may represent different parts of the secondary series, & their extent of which I conceive we have as yet but an inadequate idea is such already as to rival many a boasted marine formation: but “there is nothing in them that has suffered a sea-change” & I have seen five hundred feet of marls composing a line of hills in which the cypris was the only fossil & of which the myriads were such between each lamina that you could only compare them to the mica that divides the micaceous shaly sandst. of the Bristol Coal-field.

Scrope was accused of having exaggerated the extent & importance of the indusial limest. but I assure you he much underrated it. Yet so great have been the disturbances & volcanic action & waste since the form.ⁿ of this rock which you thought looked so modern that I assure you I have acquired an immense idea of its antiquity.[*]

We have been much favoured by weather & have worked from morning to night & hope to throw light at least on the Tertiary strata of Central France if we add little to the Volcanics information. The former has been much neglected tho’ capable of throwing more light on the latter.

[*]⁵ I am sure that a much greater number of quadrupeds might be found in this formation than Cuvier has got out of the Paris gypsum. For in

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³ Text between asterisks is quoted in Wilson, *Charles Lyell*, p. 199.
⁵ Text between asterisks is quoted in Wilson, *Charles Lyell*, p. 200.
some quarries the men find many bones every day but there is not a soul who attends to them in earnest, & none who visit quarries to encourage the workmen. All are thrown away.

It will give you some notion of the interest & geological importance of a lacustrine formation when we can have been in doubt for days whether certain hills belonged to the old red sandst. or the freshwater, whether certain others were granite or freshwater i.e. a primary crystalline unstratified rock or a sedimentary deposit, & that in both these cases we have come at last to a decided opinion that the strata in question were the undoubted property of the Lacustrine formation. Indeed I cannot imagine where it is to end & shall not be surprised if this lake should afford a parallel to a large number of our secondary formations & the strata in dislocation, elevation above their former level, alteration by trap dikes, [sic] verticality in parts, great inclination in others, induration, thickness, faults, &c will, believe me, compare with almost any part of our series, & you may therefore attribute our having been left so much in the dark on these matters or rather having been completely misled, to the accident of so much interesting volcanic phenomena being in the neighbourhood & engrossing all attention.[*]

As our work & theories are only in progress, you will of course not commit us for any of these opinions which I communicate. I hope you & your family have been enjoying better health & with my best remembrances to Mrs Mantell

believe me ever truly yours

ChaLyell

[ Addressed to: Gideon Mantell Esq. Castle Place, Lewes ]
My dear Sir

I have been intending for some time to write to you & inform you of a purchase I have made for you but knowing how long the box would be en route I felt there could be some advantage in you not being tantalized too much.

At Aix en Provence we found the quarries had not as yet been visited & that the fish which are something in the Monte Bolca style were to be had very cheap - compared indeed to what they asked me for the Bolca things at Verona, for nothing. So I laid out in fish, plants &c & a box 55 franks for you. The whole will I expect get to Lewes for 4 or 5 pounds or perhaps much less. There is one large fish which Murchison & I estimated at about £5 at any sale in London & there are some 40 smaller & pretty entire fish many of which are duplicates of a kind of perch. Of the latter I shall probably wish a few at the price you receive them at. A fine palm I fear be broken notwithstanding the care I took. It is Palmacites Lamanonis Cuv. & Brong.t Env. de Par. The large oyster Murchison I believe will claim for the Geol. Soey. The small box of Montpelier insects I must get you to keep for me till opportunity offers to send them to me in town. The few imperfect insects will I hope be prized though as Aix insects. They are 3d. each. The fact is a wonderful mine of insects has been opened since a year. No doubt it will soon fail. As M. & I may want the species for a paper on Aix I could only purchase for you what were rejected but I got them for a few sous each & barring 2 or 3 in London you will have in them the best fossil remains of octopods save ours. All in the box is from the freshwater of Aix en Provence – except the oyster.

I will give you a full & minute account of the whole habitat of these creatures when we meet. In the mean time I may say that the Aix form. is generally referred to the Paris Upper freshwater & it is supposed that like the Crag & Subappenium beds a considerable percentage of the animals & plants are still living. But the beds in which these fish, palms & insects & shells lived now form parts of hills 4 or 500 feet above sea & the strata in places dip at 30 & 40!! There are great beds of gypsum like Paris but I believe nothing so ancient as Paleotherium.
I said that there was nothing but Aix specimens but I forgot some others which I put in as being so like some of the Hastings bivalve cyrene beds. I believe I marked them Fuveau. They belong to a freshwater formation, much older than lias!! in which the coal resembles in quality some of our genuine old coal. Solid beds of limest. & sandst. associated with it in which are found in abundance Potamides, cyclas, cyrene, unio & in the red marl beds with gypsum marked ## we found what we are persuaded will prove lymnea & planorbis!! The lias is full of terebratula, belemnite, & ammonites, & thousands of feet under in this ancient freshwater & coal format., & proved to be under by both sides of an anticlinal axis! So much for the aboriginal universal ocean! It was a singular thing to see Potamides, cyclas, cyrene, plants & lymnea in the two format. given in the sketch at the two extremes of the series.

I give you these things in confidence for our joint paper is not yet written & Murchison would be jealous if these affairs were to be stale when we give them to the Geol. Soc. Our insects, out of 15 genera at least some as perfect as they were born. Marcel de Serres who is the only one save us who ever got any has 60 genera. He swears he can identify some species with living Mediterranean insects but some are unknown. I am too much engaged to write more but will say in conclusion that [*] one must travel over Europe to learn how completely we are in our infancy in the knowledge of the ancient history of the globe & to feel as I do now what splendid discoveries must be

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on the Eve of coming to light even within the time which we may hope to see. [*] I forgot to say in my last that Prévost was much pleased when I delivered your present to him myself and that on Ad. Brongniart’s table I really found his book of Plants with your name on it. But he had been waiting as they always do “pour un occasion”, till doomsday.

Remember me to Mrs Mantell & believe me
your sincere friend

ChaLyell

P.S. The box was directed to Hunnerman Agent Queen St Soho & sent by ship from Marseilles. The banker has not written as he promised to say by what ship he had forwarded it.

[ Addressed to: Gideon Mantell Esq. Castle Place, Lewes, Sussex ]

51

Charles Lyell to G. A. Mantell

[ 14 Feb. 1829 ]

My dear Sir
I have arrived a few days in Paris & hope to be in town in 8 more. I have seen Vesuvius & Etna well as perhaps you have heard having extended my tour to the greater part of Sicily & Southern Italy as far as Naples. I cannot find any letter here from you tho’ I expected one merely from one of your other letters which were sent from London.

Cuvier’s workmen had done nothing as they promised so I blew them up in fine style & they now declare that there shall be sent immediately models of all the Paris animals which are done whether painted or not for I find that if you are to wait till a certain Painter who has been ill ½ a year & more is recov. you will see them about the end of the next geological epoch.

Your late present here was well timed for my diplomacy. An opportunity of sending this to London having offered at Cuvier’s this morning, I have only time for a short note. Ad. Brongniart said at a party the other day of geologists while talking across the table that you had done more for fossil botany than any one in England, so that I conclude you have at least been more useful to him than anybody else.

Geology is more alive here than I expected to find it consid. the lamentations of the French that they do not get on so fast as us. De Beaumont thinks he has proof that the Serpentine throughout the Alps turns the lias into which it enters into gneiss, mica, schist, chlorite slate &c &c in short that beds full of belemnites &c are primarized & granitized so as to become everything that the Grampians can show. Old Brochant has given into this extraordinary innovation. I regret that deep snow prevented my visiting on my return some of the localities.

20 species of coal plants have been found in a belemnite bearing bed believed to be lias to the dreadful discomfort of A. Brongniart, in the Taren[ ? ]. 1200 species of extinct shells well made out in Paris basin!! A new plesiosaurian just receiv. from Dep. of Ardennes, France s. to be in Oxf. clays.

While I write this, some specimens for you are being put into a box but the man says “we have not got a perfect set” so Cuvier tells them “take a note of them & then re-examination shall follow”.

In haste with remembrance to Mrs Mantell believe me very truly yrs

ChaLyell

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1 The letter has been torn after the letters ‘Taren’.
My dear Sir

One of your letters, (for I gather from yours of which I have at last reclaimed that there were two) has been today extracted from the Poste Restante & I have given to Ad. Brongniart the notice on your catalogue of fossils &c. He has given me some things for you, a prodromus &c & observed that if you had discovered it was too large to translate you might still insert perhaps in Annals of Phil a translation of the smaller pamphlet also sent. As I had a general order to seize on all the moulds I could I sent off coloured & uncol.\(^d\) every thing ready but Cuvier unluckily has done hardly anything in the lizard way which could as I told him have been more useful to you. Pentland promised to write to you about casts of reptiles which he was still to get sent from Cuvier & to put the note in the box. I hear from Murchison that our Entomological boxes waited many months at the bankers at Marseilles but that he has written for them; if you have been disappointed it is to us still worse in as much our Ordnance coloured maps of the Aurillac freshwater basin are in our box and our Central France paper is in danger of being seriously deferred by the want of this document. Your fish however,
were safe when the last news of them was received at Marseilles. As you
told me to spend about £7 for you I am in treaty with Deshayes for a small
suite of about 100 Calcaire Grossiere shells for £4-0-0.

Leman\(^1\) is just dead, the only scientific dealer.

\([*]\)\(^2\) Deshayes, now the strongest fossil conchologist in Europe has lost
so seriously by his fine work on the shells of the Paris basin that he is not
only obliged to stop, so miserably is it encouraged but his circumstances are
injured for a time by it. I have bought a copy (70 franks) to help him & as I
find he has amassed in his researches for new things a multitude of fine
duplicates I trust thro’ Prévost to negotiate a purchase for you.[*] I must
proceed in delivery or I shall fail.[*]\(^3\) The grand thing will be to get the
names of perhaps 100 genera from such a man who is acknowledged to be the
cuvier of tertiary shells, no mean acquirement now that they amount in his
museum including those living in the Medit.\(^9\) & the channel, to above 3,000
species. His drawings of microscopic shells of the Paris basin are most
curious. Such incredible forms of multilocular shells & some so elegant. God
knows whether the work will ever come to these. It is one 3\(^d\) finished.

20 th. Feb.\(^7\). Just heard a good lecture of Prévosts to a numerous
class. It was on diluv.\(^m\) & caves, a good logical refutation of the diluvium
humbug. The news of the day is that a Dr — has just read a memoir at
Institute on a new small tapir & produced the head & jaws. It inhabits the
mountains of upper India & they swear that the species is not distinguishable
hardly from one of the Montmartre Paleotheriums. In return I announced
Mary Anning’s new Pterodactyl of Lyme [*] which Murchison informs me is
to devour like another dragon of Wantley all the Soi-disant birds bones of
Stonesfield & Tilgate.

[*]\(^4\) How grand your Museum will look when under every bone of
which the ornithologists could make nothing you write Pterodactylus
Dorsetianus & Tilgetanus. Prévost has a beautiful large machoire of an
anoplotherium which he showed me imbedded in gypsum intended as a present
for you & if we succeed in getting the shells it is to go with them. He

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\(^1\) Sebastian Leman was admitted as a foreign member of the GSL in 1816. Woodward, *History of the GSL*, p. 278.
\(^2\) Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, p. 246.
\(^3\) Text between asterisks is quoted in *ibid.*, p. 247.
\(^4\) Text between asterisks is quoted in *ibid.*, p. 247.
observed “this will be better for it will cut a mighty figure among the cockles
but if it is thrown into Cuvier’s large caisse it will be drowned”. I have no
fear of getting the shells & if it answers expectations I shall be allowed to
enlarge the commission in future should you incline to be sumptuous. In the
meantime, prepare to disburse 100 franks which I shall pay Deshayes before
I leave Paris, which I suppose will be in two days, for town.

Young Brongniart protested at breakfast on Sunday at his father’s
before a large party of savans that you knew more of fossil plants than any
man in England. I could have told him that a certain Mr Stokes had recently
accumulated a quantity of fossil & recent woods, plants &c which with no
small study & that too aided by Brown, had placed him in a situation to
become the critic of Ad. Brongniart himself, which moreover he will be as I
learn – but I kept this to myself as it will be time enough when he learns it
[*] & in meantime you are a magnus apollo in the two kingdoms.

Part of my Aix section was quite wrong. The coal, true coal,
Newcastle coal, is tertiary after all.

I had no moment for epistolizing & only hope you kept my true facts
& my blunders to yourself. I care as little about Postage, on geological
subjects as if an M.P. So you need not scruple another time on that [score?] to
send letters to P. Restante. Remember me to Mrs Mantell & believe me
ever truly yrs

ChaLyell

Prévost & Deshayes say “if M. Mantell w.\(^d\) make moulds of all curious casts
to French savons [sic] he w.\(^d\) do infinite service to Anatomy here, for the
devil a one did C. ever give to a frenchman”.

[Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex, Angleterre]
London Feb. 24 Tuesd.\(^7\) Even.\(^8\)

[ 1829 ]

My dear Sir

I hope you got my last letter from Paris. Pentland begged me to say that you should write to Cuvier immediately on receiving the box from him a hint which I could not help thinking you might usually give to French savans when you send them presents.

I am just arrived & lose no time in applying to you in furtherance of a scheme which I have just set [in] foot & which I planned with Deshayes during my last meeting when I was negotiating you 100 franks worth of Parisian shells. But first of the latter.

He is to give you about 120 species & about 100 genera in that number, a large proportion freshwater because I thought that might afford you more instruction about lacustrines & I. of Wight & Tilgate analogies or non-analogies.

All to be sent named. On discussing these matters he offered to name all my Sicilian shells & rather begged it as a favour to himself, & we planned together a grand scheme of cataloguing the tertiary shells of various European basins that I might draw geological inferences therefrom. As it will become necessary for him in the execution of this plan that he should see himself as many English tertiary shells as possible of well-ascertained localities I am going to exert myself in procuring the loan of several collections, which will return from Paris with Deshayes’ names, a good return in general for the trouble & slight risk.

I am sure you will second my wishes by letter & have such Plastic clay & other tertiary shells as you have. Deshayes is no Cuvier in delay & your things will return forthwith.

Duplicates which Deshayes wants would be carefully exchanged for calc. gross. shells named. This I will tell him. So be so kind as to pack up first a parcel containing the best specimens you have & all the varieties of every tertiary English shell or madrepore from Lewes levels thro’ crag downwards in a separate parcel which will return named & thereby secured for our grand European catalogues. – 2\(^{dy.}\) another parcel of duplicates if you have any of d.\(^6\) which you can give for a present & in fact in exchange to the s.\(^{5}\) conchologist. Pack them so I may add them to a parcel which I have to
send without having to open them here.

So that shells of the same formation are together it will not be necessary to add precise localities. Before the work I have in hand comes out I hope to get approximate lists for comparison of shells in most of the basins of Europe, not to publish the lists, but to give the results which I am sure will be important & which I already have discovered from the study of museums in Italy & France will be unexpected for the most part either by collectors or geologists. My results will be an indication from nearly (perhaps more than) 3,000 species in the tertiary form.5 alone, & I hope by other aid than Deshayes to carry it on through older strata also. I have already made much way in it. No-one but yourself & Deshayes is privy to these state secrets as yet & till I get in further I have no wish to advantage them. I treat you in this request as a friend sans ceremony.

However small the number (for I forget what you have) favour us with them [...] if any partial damage occurs which I do not anticipate we will make it good to you from our Sicilian & Parisian duplicates. I have brought with me named at present some Sienna duplicates of my collecting, some of which you shall have shortly. Just arrived & have travelled so fast that I shall stay quiet & incognito in chambers for a day & ½.

With remembrances to Mrs Mantell believe me ever most truly yours

ChaLyell

Did Murchison send the saurian relics which Cuvier gave him of yours?

[ Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex ]
March 19, Temple 1829

My dear Sir

Pray breakfast here on Sund.\(^7\) morning & we will be alone, but any morning you will find me disengaged to you – however Sund.\(^7\) is a good day. I am delighted to hear that Ure’s book\(^1\) has had so good an effect, for I told Murchison in a letter from Italy where he wrote quite in a rage that Longman had paid down £500 sterling for the cant of an [*]\(^2\) unprincipled hypocrite & libertine of Dublin well known in the annals of crime [*] [illegible 2 or 3 letters] &c that now that we are too far on with the public to recede the name of such writers the better for it has the effect of making hundreds of dupes look into the evidence & see clearly that the case stands the other way & then some turn geologists & the rest are less of bigots. Such fellows once did as much mischief & not long ago as the inquisitors, but now that the philosophers have got the upper hand I wish Irving\(^3\) to preach against us as he sometimes does, every Sunday.

Don’t put yourself out of the way about the things for Deshayes the sooner the better but it does not press at present.

very truly yrs

ChaLyell

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Charles Lyell to G. A. Mantell

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\(^2\) Text between asterisks is quoted in Wilson, *Charles Lyell*, p. 265.

March 23, 1829, London

My dear Sir

I had arranged with Greenough that you should dine there & see a splendid specimen just received from Ockley near Dorking, Surrey said to be from Weald clay. On one side apparently a fish with an immense number of scales regularly imbriated & terminating in tortoise like pieces fitted in to one another on the reverse was embedded as if accidentally, an iguanodon's tooth with sections in the shale of other long crocodile like teeth.

I write as an ignoramus but it must be an important morsel for you to see. They call it fish & till I showed the tooth thought it all ichthyological.

I was not at the dinner not being returned – altho’ not advertized 70 to 80 persons came – never before so many. All agreed that the chair at a scientific convivial meeting had never been so well filled as by our new President Sedgwick who off-hand on the list of tracts being given to him on coming up sported an inexhaustible number of bright & original ideas in innumerable speeches. On coming to the Pres. of Astron. Soc., Herschell [sic] he made fine play about his intended marriage – for H. has since married a beautiful & accomplished Scotch lassie aged 18. He talked of the house of Cassini having been illustrious for 3 successive generations & in astronomy so might that of Herschell prove – &c. Gentlemen, “may the house of Herschell be perpetuated, may all the constellations wait on them, may ‘Virgo’ go before & ‘Gemini’ follow after, & may their off-spring resemble the stars of heaven in number & brilliance &c”. This was received by a roar of laughter for 3 minutes & H. tho’ at first put out of countenance recovered & made an admirable speech.

The Society & the subject have gained vastly in strength & followers within the last 2 years.

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4 The Reverend Adam Sedgwick succeeded W.H. Fitton as President of the GSL and served in that capacity from 1829-31. Woodward, History of the GSL, p. 287.
5 Sir John Herschel married Margaret Brodie, the second daughter of Rev. Dr. A. Stewart of...
Now that Mantellias are becoming numerous & other honours you must keep up to your reputation which is high by confining your attention & concentrating it in future on that department of Geol. where you are strongest & least in danger of being rivalled. I feel my own honour a little compromised in the affair, as a friend of mine had the impudence at the Soc. on Friday to call you as he addressed another celebrated geologist “the man whom Lyell here & some folks abroad choose to make much of” – of course in private conversation; in a coterie of which I was one. Now I have sworn with myself that you shall show them ere many years are over who & what you are & put to the blush the jealous unwillingness which most metropolitan monopolists in Science both in France & here exhibit towards all such as happen not to breathe their own exclusive atmosphere. But you must concentrate. Cut Botany, except as a collector. Give up all idea of a popular book on wonders of Geol. which would yield cash only. Of course you will not attempt to tilt with Fitton & me “on the general principles of Geol.” which we mean soon (mine will be soon) to give you. After all my travelling & reading I find it too much to dare & only excusable when I measure my strength against others & not with the Subject. But from this moment resolve to bring out a general work on “British fossil reptiles & fish” – Clift has not time & never will have – Buckland is divided amongst a 100 things & no anatomist. Conybeare no time to devote himself to such a branch. Cuvier can not come to fossil fish in 4 or 5 years & must then quote you. His new book on fish enables you to start fair with others as to modern fish. Your book may be made popular even & contain recent zoological geology like Cuvier’s last. Our fossil fish lie within small compass as yet. You must run up often to town. After you have worked quietly to the point for a year & ½ or more, then out with a prodromus a la Adolphe Brongniart. Fish & reptiles will then be sent & lent in abundance from all Museums. You must purchase some from Lyme Regis & many books & say nothing for a while. By this you may render yourself truly great which without much travelling you will never become in general geol. The field is yours – but might not remain open many years. It is worthy of ambition & the only one which in an equally short time you could make your own in England for ever.

Lindley will soon be our Adolphe Brongniart in botany (fossil) i.e. in

Dingwall, Ross-Shire on 3 March 1829. DNB.
several years but before others. I have not space for more. Vallenciennes\(^6\) was to have spent 2 days at Lewes (Cuvier’s collaborator on fish) but was dangerously ill for two days & then obliged to return.

ChaLyell

No news of Aix box – nor Deshayes, expected dayly.[sic] Get ready crag fossils &c at your leisure.

[ Addressed to: Gideon Mantell Esq. Castle Place, Lewes, Sussex ]

56

Charles Lyell to G. A. Mantell

[ 9 April 1829 ]

My dear Sir

A letter just arrived announces the approach of the Aix boxes. They are on the Thames at least & I have ordered yours forthwith to Lewes. I will send you the account of the damage when I have settled with Hunnerman.

Do not forget the shells for Deshayes or if you like a pack first & if you choose omit the more fragile & rare crag shells. I know it is cruel to remind you when you have 50 times more to do than you ought to have. No particular news except that Dr Young\(^1\) is thought dangerously ill. If he, Davy\(^2\) & Woolaston\(^3\) [sic] died in one year! Davy is still going on.

A party of Geologists at Horners to day. I wish you were to be there but next year you will run up like the Oxf.\(^4\) & Cantab. Prof.\(^5\) once a month at least.

believe me with rememb.\(^6\) to Mrs Mantell

yrs very truly

ChaLyell

Temple
Ap. 9. 1829

[ Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex ]

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My dear friend,

I found your letter here this morning on my return from dining yester.\(^7\) in the country & might have written on Sat.\(^8\) to tell you that when I proposed to a very full council that you should have the privilege of buying casts of the Ava fossils it was voted that they should be sent to

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\(^1\) Thomas Young (1773 - 1829). Physician, physicist and Egyptologist. Foreign Secretary of the Royal Society from 1802-29. *DNB*.

you & amongst arguments for so far departing from a former resolution was urged not only your own former presents of casts &c, but your catalogue of fossils. Certain other 2 members who shall be nameless added a due demonstration of feelings of gratitude for favours yet to come hinting that as the new curator Mr Lonsdale of Bath was completing the oolitic series so when the chalk was hereafter rendered more perfect your future donations might be important.

I took upon me to say that one reason no doubt of many presents having been lost from you & others was their seeing the state of Chaos of the collection which I had heard you compare to Byron’s “first out of & then back again to Chaos”.

Lonsdale is installed & a glorious reform you will see made by him. Webster of course will throw himself into the Thames when he understands that £200 a year are to be given to an alter Webster out of which however L. is to find his clerk. He has that humility of character about him that I fear not his being above the place. He is not to be like Webster a member of council which medley of legislative & executive power formerly clogged the movements of the machine. As to little W. I am told that in the I. of Wight & Bristol last year he pocketed considerable cash & made no small number of enemies. The engagement between him & little Millar of Bristol are imitated to the life by Broderip who saw them. I cannot think of M.’s german dialect when he told W. he was master of his own house, & the sharp vein in which W. communicated to the conservator with an insufferable air of authority, that the council had commanded him to give up the keys of Museum to him, the tone in which the offended custos denied to the itinerant dignitary his charge without a written order, without laughing.

He also had an affair (not of honour) with Lonsdale at Bath but out of compassion L. declined pulling his nose. To sum up all this singular being who is like a species of oscillatoria which can only live in thermal water at a high temperature contrived on his return here to quarrel with Baldwin the

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3 W.H. Wollaston died on 22 December 1828. *DNB.*
4 Mantell received these casts on 16 June 1829. *GAM-PJ.*
5 William Lonsdale was appointed Curator and Librarian of the GSL in 1829. Thomas Webster had been appointed Keeper of the Museum and Draughtsman in 1812 and then Secretary in 1819. Woodward, *History of the GSL*, p. 308.
6 Johann S. Miller (Muller). German born curator based at Bristol. Author of *A Natural History of the Crinoidea, or Lily Shaped Animals*, Bristol, 1821.
Prop. & Smedley the Editor of the Encycloped. Metrop. & Daubeny his appointed coadjutor in writing for them an article on Geol. All is off with mutual recriminations. Fitton in the style of my uncle Toby, says “Poor fellow, it is all owing to his having upon an occasion lost his _____!” hilarious.

believe me with rememb. to Mrs Mantell yrs very truly

ChaLyell

P.S. Your things are gone to Paris. of the others I know not what to say. We have not our box from Aix either. Deshayes tells me his shells for you are just ready.

[ Addressed to: Gideon Mantell Esq. Castle Place, Lewes, Sussex ]

58

Charles Lyell to G. A. Mantell

[ 16 May 1829 ]

Dear Mantell

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Edward Smedley (1788 - 1836). Author and editor of *Encyclopedia Metropolitana*. *DNB*. 
Deville\(^1\) got your box one hour after it entered my rooms. When I see Clift I will learn where the man is whom he employs to make skeletons of fish \&c.

\(^{[*]}\)^2 A splendid meeting last night. Sedgwick in chair. Conybeare’s paper\(^3\) on valley of Thames directed against Messrs. Lyell \& Murchison’s former paper\(^4\) was read in part. Buckland present to defend the “diluvialists” as Conybeare styles his sect \& us he terms “fluvialists”.

Greenough assisted us by making an ultra speech on the impotence\(^5\) of modern causes. No river he said within times of history has deepened its channel one foot! It was great fun for he said – our opponents say, “give us Time \& we will work wonders, so said the wolf in the fable – to the lamb – why do you disturb the water? – I do not you are further up the stream than I – But your father did – he never was here – then your grandfather did so I will murder you, give me time \& I will murder you, so say the fluvialists”!

Roars of laughter in which G. joined ag.\(^6\) himself. What a choice simile! M. \& I fought stoutly \& Buckland was very piano.

Conybeare’s memoir is not strong by any means. He admits 3 deluges before the Noachian! \& Buckland adds God knows how many catastrophes besides so we have driven them out of the Mosaic record fairly.\(^{[*]}\)

Many thanks for the fish, to tell you the truth I have not to this moment found time to look at them.

I was glad to hear you are better. I was so fagg ed that I ran down to a find in Bedfordsh. a new quarter for me \& I picked up some new ideas in Geol.\(^7\)

yours very truly

ChaLyell

I can’t tell you yet what you owe me.

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\(^1\) It is probable that Lyell refers to Henri Sainte-Claire Deville, (d. 1881) rather than his brother Charles (1814 - 1871). Both were French mineralogists. Sarjeant, G \& H of G, vol. 2, p. 2031.

\(^2\) Text between asterisks is quoted in K. Lyell, LLJ-CL, vol. 1, p. 252, where the letter is incorrectly dated April 1829. This extract is also quoted by Wilson, Charles Lyell, p. 264.

\(^3\) W.D. Conybeare, ‘On the Hydrographical Basin of the Thames, with a view more especially to investigate the causes which have operated in the formation of the Valleys of that River and the tributary Streams’, PGSL, 1826-33, 1, pp. 145-149.


\(^5\) In the quoted extract from this letter in K. Lyell’s LLJ-CL, the word “importance” has been used instead of “impotence”.

My dear Sir

Hunnerman has just sent his bill & I believe I may now dun you for what I have paid.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Hunnerman for carriage of Aix bones</td>
<td>£1 8 0</td>
</tr>
<tr>
<td>Pentland for box for Cuvier’s fossils etc</td>
<td>14 0</td>
</tr>
<tr>
<td>Deshayes for shells</td>
<td>4 0 0</td>
</tr>
<tr>
<td>Aix fossils as mentioned I believe in my letter to you dated Aix.</td>
<td>2 15 0</td>
</tr>
</tbody>
</table>

£8 17

I mean to put in a note when speaking of the difficulties with which Geology had to contend & your Lewes Dr. ? [Hopkins]¹ (what was his name again I always forget) as an instance of the Inquisition which survived the times of Galileo. Be so good as to state it to me. It is a good fact that an author of a work which would now be visited with no general blame if not applause should have felt his situation so insupportable as to be obliged to de camp. Just state the year & where he went to afterwards. I shall throw it into a brief note so give me what little you have of the affair.

My work will be 2 vols. & out before this time [next] year. I shall at least avoid the mistake of not offending either party.

I shall be glad to hear that your health is better & you are prepared if rest be indispensable to sacrifice much rather than persevere in attempting

¹ In the original letter the name Hopkins has been written in pencil in the space left blank by Lyell. However, in an undated letter to Lyell, [letter 131], Mantell wrote: “You may recollect Dr Toulmin who wrote on the Eternity of the earth, lived at Lewes as M.D. & was obliged to leave the place”. 
too much.

I have no news yet of my Sicilian boxes which ought to have arrived.
if they are as long in proportion as my Aix fossils I must wait for 2.ª Ed.".

I hear that even Ure’s book sells & that the 500 guineas which
Longman paid will answer to him.

Conybeare’s paper will be concluded this 5 th. June & the Diluvialists
mean to muster strong, it is better written than the first part. We shall have a
regular engagement. Scrope is to be here tomorrow & I hope to enlist him for
the action of the 3 rd. (not 10th) June.

Broderip & I misbehaved at the R.S. on Thursd.º by giving way to a
fit of laughter during the Seance, on overhearing that old twaddle, Josh.
Smith² F.R.S talking to a friend about our last Geol ¹ debate. He said, “I was
glad they argued so temperately for that was quite right, for you know Sir the
facts are all against Moses & Mr Greenough proved in an impressive speech
that "Time can do everything"! but they (the G.S.) showed I think that they
do not wish to abrogate the Xtian dispensation as some might think.”!!

Your friend Sir R. Phillips³ was uninvited at D. Gilberts party last Sat ⁷.
I hope he will not serve us up in print as he did 2 friends of mine at Bedford
one of whom Dr.Hunt fed him never having heard that he would be shown up
as large as life.

With rememb.ºº to Mrs Mantell believe me
yours ever
ChaLyell

[ Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex ]

² Further details about this particular J. Smith have not been found. Five J. Smiths are listed in the F.R.S. Record as having joined the Society between 1773 and 1829.
My dear Sir

[*] The last discharge of Conybeare’s artillery served by the great Oxford Engineer against the fluvialists as they are pleased to term us drew upon them on Frid. a sharp voley [sic] of musketry from all sides & such a broad side at the finale from Sedgwick as was enough to sink the Reliquiae Dil[e]. for ever & make the 2 vol shy of venturing out to sea. After the memoir on the impotence of all the rivers wh. feed [the] “Main river of an isle” & the sluggishness of Father Thames himself “scarce able to move a pins head”, a notice by Cully [sic] land surveyor was read on the prodigious power of a cheviot stream “the college” wh. has swept away a bridge & annually buries large tracts under gravel. Buckland then jumped up like a council said Fitton to me, “who had come down special”. After his reiteration of Conybeare’s arguments Fitton made a somewhat laboured speech. I followed & then Sedgwick who decided on 4 or more deluges & said the simultaneousness was disproved for ever &c &c & declared that on the nature of such floods we should at present “doubt & not dogmatise”! a good meeting.[*]

Murchison & I read next time a paper on the Aix Freshw. form. Can you say a word on the fish? if it be only as to the number. Blainville told some he had a perca from Aix. He also says Mem. de la Soc. d’Hist. Nat.

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1 Text between asterisks is quoted in K.Lyell, Lyell LLJ-CL, vol. 1, p. 253.
3 Mathew Culley, ‘A few Facts and Observations as to the Power which running water exerts in removing heavy bodies’, PGSL, 1826-33, 1, p.149.
“Une espece de cyprin pourvue de deuts”⁶ – also Perca cernuar or like it. How many species have you. The shells & gyrogonites prove I think the whole to be pure freshw ⁷.

If in reading Ure any of his numerous blunders struck you pray mention them to me for altho’ I shall never have patience to read him thro’ I fancy I must say a word or two in the Q.R. on the gross mistakes for the work will soon come to a 2.⁴ Ed.⁶ & all the errata be perpetuated such as those about Weald clay, which specify in your letter. Also that where the lias is placed between the oolites & green-sand. I receiv.⁷ your check & got the money but more than enough especially as I receiv.⁷ from you some Aix fish. The Fuveau coal wh in a letter from Aix I made out so old turned out as I think I told you afterwar.⁸ to be tertiary with its freshw.⁷ fossils & my section was wrong.

Pray point out to me any decided blunders made by Ure about you, your county & your discoveries. I shall only write a few pages to point out gross errors for as the book is read it will do much havoc to the progress of Truth. I sh.⁷ have passed by the cant as I did Pens & Bug’s⁷ but if taken for the real Elements of Geol.⁹ it will play the devil with our beginners; unless we force him to revise. Send off as little at a time as you please just as anything strikes you. They all protest I must insert a few pages in it for Brande the Lit⁹. Gazette New Monthly & all choose to puff it as 2.⁴ only to G. Pen!!!

We sh.⁷ not grudge him this commendation, but the confusion of org.⁶ rem.⁸ & arrangement is a crying sin. London clay fossils you see are figured Pl.4 as Upper oolites &c. You had better confine yourself to a hint or two as to points where he mistakes yours.[*]⁸ I am to start for Scotland June 20 &[*] see the Crag in my way.[*]⁹ shall be there 2 months.[*] With rememb.⁸ to Mrs Mantell believe me

 ever truly yrs

ChaLyell

⁶ Literal translation: “A species of carp provided as a pair”.
⁷ Granville Penn and George Bugg were biblical literalists and authors who believed Buckland downgraded the significance of the deluge by restricting its geological effect to no more than superficial gravel deposits. N.A. Rupke, *The Great Chain of History*, Clarendon Press, Oxford, 1983, p. 82.
⁸ Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, p. 253.
⁹ Text between asterisks is quoted in *ibid.*, p. 253.
My dear Sir

My review¹ is at the Printers, will be finally corrected on Thursd.⁷ & on Sat.⁷ I leave town. If you chance to have some small remark to make concerning Ure which may not have struck me when pointing out his Sussex blunders in arrangement &c write at once. But for heaven’s sake buy not the book & if you cannot borrow it leave it alone.

I have not had time yet to go through your fossils, the list I mean but I will try tomorrow. The Lamarchian names must be given as you have mixed up new & old names. I mean of the recent shells which alone I have read & corrected almost all. Greenough I think will do the rest. As to the Brighton cliffs I should like to know what is the greatest height you consider the breccia, containing marine remains to rise.

What is there to prove that it is not Crag?
Perhaps not evidence enough yet to prove anything.

In your plate of Rottingdean do you mean that B is the marl bed[.] if so what marl. Why colour it in the same manner as the shingle bed A? Is A. & B. of same age? Are C.C. & D.D. flint veins? If so they are posterior to B.B. & B.B. looks like same age as shingle bed. Besides you leave as white space at Z as if the chalk overlaid the extremity of the shingle bed A.

The brighton will turn out to be a true Littoral form." like part of Crag & all the tertiary of the Loire in France. But there are littoral form." of various ages & many more recent than Crag which I will prove to you next spring is of enormous antiquity. I suppose the marine shells in Brighton conglomer. can not be made out?

Deshayes has got your Crag shells & much interested apologises for not having sent others, has been abroad on a tour, & when the Crag are named all are to come back together & some.

If you c.⁴ come up on Frid.⁵ & see our Fossil insects, I will send you a plate of them by Curtis² before I go if printed off. The paper will only be out in Jamieson in Oct.⁶ ³

remember me to Mrs Mantell & believe me
ever truly yrs
ChaLyell

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² John Curtis (1791 - 1862). Entomologist and skilled engraver. DNB.
P.S. If tide once 40 feet higher at Brighton (a Severn tide) w.\textsuperscript{d} the old cliff be explained without Elev.\textsuperscript{a} supposing it marine?

Temple
Mond.\textsuperscript{y} June 15 1829.

P.S. 2.\textsuperscript{d}
Don’t tell a soul I wrote on Ure – put them on a doubtful scent as to the author, you will soon see it out.

Charles Lyell to G. A. Mantell

[ 22 Oct 1829 ]

Dear Mantell
I am just returned from Scotland & being 500 miles nearer to you will give you a few lines which when I was moving about with Dr Fleming geologising in Fife I could not do & I had no success when at home. Dr. F. was much delighted with some recent communication from you I forget what. A letter does him good & whenever you will send one for him to me I will get it franked on.

Sedgwick & Murchison are in Paris & expected in a few days[.] they seem to think Auvergne a formation of modern date one of my ‘contemporaries’ zoologically so you may say “canis vulpis” if you like. Mrs Murchison magnifies your museum as I have no doubt it deserves.

Conybeare after his accident of which of course you heard (thrown out of a gig) was 14 days miserable, having fallen on his head, but he has recov.\textsuperscript{d}
his senses slowly. No limbs broken & they think he may get over it.

Sedgwick has become as complete an anti-Bucklandite as to diluvium as I ever was & means to hold forth on it, a diversion very favourable to me.

I hope to be out with my book in the spring, indeed I must as I trust I shall then sail for Iceland, so if you have any commands to Hecla you have only to draw them up in time.

Mary Anning seems to have been fully successful, it seems the Auvergne folks have taken a leaf out of her book for they would not let our friends have a fossil tortoise under £36 sterling which they did not give, in this country a prodigious sum. Yet it is satisfactory as showing the zeal of collectors. Thirty six pence would not have been given 20 years ago.

Fitton is at Frankfurt & has been geologizing. His wife much recovered, & both in good spirits.

I found the usual quarrels in Edinburgh as I passed thro’, all in hot water. Jameson out of humour because his Journal\(^1\) no longer pays now that Brewster\(^2\) is in opposition. But the latter is out of pocket by his & they both work hard assisted by the generous reflection that they are injuring one another. It is an illustration of the old proverb of the quarrel of friends.

I am glad to hear that you are getting on in the anatomical branch for it is there that you may top all on this side of the channel & give us an invaluable help. The field is yours in spite of disadvantages of localization which you have triumphed over.

Many thanks for your catalogues of the Museum. Your list of fossils\(^3\) will be out in the new vol. about our 2.\(^d\) meeting.

Hoping to hear you are in town at some of our early meetings. I shall conclude with kind remembrances to Mrs Mantell & believe me ever much truly yours

ChaLyell

9 Crown Off. Row Temple
London Oct. 22. 1829.

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\(^1\) *The Edinburgh New Philosophical Journal*.
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Charles Lyell to G. A. Mantell

Temple Sat. Dec 5. [1829]

Dear Mantell

[*] We were all disappointed at your not being here yesterd. for Murchison told us you were to have been here. Sedgwick & his wind up on the Alps went off splendidly in a full meeting. You & the iguanodon treated by Buckland with due honours when exhibiting some great bones of a little toe from Purbeck. He greatly amused my friend, Sir T. Phillips [*] not Dick your friend [*] by his humour about the size of the s[d] giant compared to the small genteel lizards of our days.

I am bound hand & foot. In the press on Monday next with my work which Murray is going to publish – 2 vols. – the title “Principles of Geology being an attempt to explain the former changes of the Earth’s surface, by reference to causes now in operation”. The first vol will be quite finished by the end of this month. The 2[d] is in a manner written but will require great recasting [*] during the parturition of the first of the twins.

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4 Text between asterisks is quoted in K. Lyell, LLJ-CL, vol.1, 1881, p. 258.
5 A. Sedgwick and R.I. Murchison, ‘A Sketch of the Structure of the Eastern Alps; with Sections through the Newer Formations on the Northern Flanks of the Chain, and through the Tertiary Deposits of Styria, &c’, [Read: 6 & 20 November 1829; 4 December 1829; 15 March 1830]. TGSL, 1835, 3, series 2, pp. 301-422.
7 Sir Thomas Phillips (1801 - 1867). Lawyer and Mayor of Newport. DNB.
9 Text between asterisks is quoted in K. Lyell, LLJ-CL, vol.1, p. 258.
[*] I start for Iceland by the end of April. So time is pressing. You must let us see you here. What particular scheme have you at present in Geol.? Your list of shells will be [a] grand thing.[*]

If Woodward annoys you as he does others do not indulge him, for you will find there will be no end to his free & easy requests. Small as his information is however compared to his pretensions it may do some good. remember me to Mrs Mantell & believe me very truly yrs.

ChaLyell

[ Addressed to: G. Mantell Esq. Castle Place, Lewes ]

Charles Lyell to G. A. Mantell

[ 31 December 1829 ]

10 John Murray, Lyell’s London publisher.
11 Text between asterisks is quoted in K. Lyell, LLJ-CL, vol. 1, p. 278.
12 Samuel Woodward (1790 - 1838). Geologist and antiquary who worked at Gurney's Bank 1820-1828. DNB.
Dear Mantell

I have taken my place for Sat.\textsuperscript{7} morning next in Lewes Co from Charing X at 9\textsuperscript{o}ck. I should have come on Frid.\textsuperscript{7} & Sat 7 instead of Sat. & Sund.\textsuperscript{7} but De la Beche is likely to have a miserable meeting for his paper\textsuperscript{1} on Frid.\textsuperscript{7} & I wish to attend. It was a grand blunder having a meeting on New Years Day.

I hope to show you my first sheet printed. It is the printers fault that I have not time before then. Scrope writes me word this morning that he expects great things & that I have “to create a science”. This is in fact the difficulty. There is nothing down in examining into the principles of the Science & the chapter I am now preparing is half on metaphysics but intelligible I trust to all the ladies who are not like Lady M. Sheppard\textsuperscript{2} metaphysicians.

Scrope has sent up a paper on valleys\textsuperscript{3} so I expect another field day between us fluvialists & Buckland. We should make something of it at luncheon. Would it be possible to go to Rottingdean on Sund\textsuperscript{7} – perhaps not on Mond.\textsuperscript{7} I sh.\textsuperscript{d} like to get back here by an early Brighton coach.

I apologise I have refused 6 invitations this Xmas & will only stir out for you & must steal away & make it a seventh. I will tell you the news when we meet for I am hurried now. Remember me to Mrs Mantell

& believe me very truly yrs

ChaLyell

Temple

Dec. 31. 1829.

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\textsuperscript{2} Lady Mary Sheppard was the author of \textit{Essay on the Perception of an Eternal Universe}, Hatchard, London, 1827.

Dear Mantell

I have purchased Playfair & had it bound – £ 2-9-0. The transactions are £ 1-12-0 but you can pay those to Lonsdale. It is found that the Printer omitted one sheet of the supplement to the former vol. so you must take the first opportunity of returning it & a perfect one will be sent to you.

Many thanks for the Relliquiae [sic] which you sent me. I send you the Wood Block & abstracts. Shall I buy for you the Quarterly Review with Fleming’s paper on systems in Natural History or can you get it.

Only 2 of my sheets fairly done yet.

I fear Murchison is not in town as he has not answered a note of mine.

Work away at the shells in the bed at Shoreham. I am sure they are other than the chalk flint – rubble – plateau – & many may be found. I should even a la Vernon get some one to dig in for me when the good weather comes. You have a mine there.

With rememb. to Mrs Mantell believe me ever yours

ChaLyell

Temple

Jan 1831

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1 Lyell dated this letter 11 Jan. 1831. However, the context, references, and address of the letter indicate that 1830 was the correct year.

2 This was the cost to GSL Members of TGSL, 3, series 2, part 1, pp.1-240. Woodward, History of the GSL, p. 311.

3 On Sunday, 3 January 1830, Lyell and Mantell visited Shoreham and examined the cliffs as far as
G. A. Mantell to Charles Lyell

Shoreham Bridge. GAM-PJ, entry 1 January 1830.
My dear friend

You must excuse the rambling style of my letters: if I do not gossip with you in this manner for a few minutes when opportunity offers, I can never enjoy the pleasure of an epistolary chitchat with you. In Capt. Wilson’s\(^2\) first voyage to Otaheite there is an acct. of the following tradition among the natives. p.344 “they have a tradition that once in their anger the great gods broke the whole world into pieces; & that all the islands around them are but little parts of what was once \textit{venooa noe} the great land, of which their own island is the eminent part”. How exactly this accords with what must have been the fact. As the same language is spoken by these south sea islanders whether at Taheite or New Zealand (although 2,000 miles separated & no means of communication till visited by Europeans) must we not conclude that the vast continent now sunk beneath the waters of the Pacific was inhabited by these people before its submersion? How amusing it is to perceive that as the israelites include the whole world in their local deluge, so the south sea islanders extend to the whole globe the destruction which took place in their own country.

So I find you have had the \textit{Toe} hashed up again: what a dish would the Professor make of my grand bones: they would serve for a month.

I have again been looking [at] Scharf’s drawing of the fox: how difficult it is to get anything done accurately but by an anatomist who is an artist – such as one as Clift for instance. I learn that enormous vertebrae have been found & exhibited by Dr. B. could no one have the charity to send me one, who have given away so many hundreds to others? I should have liked to have seen them. Woodward has deluged me with prospectuses: he is very troublesome, & I think with Konig, his book\(^3\) will not be worth it.

\(^1\) Transcribed from a xeroxed copy of the original letter at APS which was undated. However, the reference to looking at Scharf’s drawing of the fossil fox from Oeningen ties in with \textit{GAM-PJ}, entry 20 January 1830.

\(^2\) Captain James Wilson (1760 - 1814). Following his retirement from the East India Company in 1792, Wilson was converted to Christianity and offered his services to take missionaries to the South Seas. In 1799 the Directors of the Missionary Society published, \textit{A Missionary Voyage to the Southern Pacific Ocean, performed in the years 1796, 1797, 1798, in the Ship Duff commanded by Captain James Wilson compiled from Journals of the Officers and the Missionaries}, London, 1799.

Once more with best wishes for your fame, & health & happiness believe me ever my dear friend

Yours most faithfully

GMantell

Can you remind Mr. Stokes to send back my woods &c.

[ Addressed to: Charles Lyell Esq. 9 Crown Office Row, Temple ]

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Charles Lyell to G. A. Mantell

[ 5 Feb. 1830 ]

My dear Sir

Dr. Fleming’s box has just arrived which I begged him to send to me as the best way of securing its going to Lewes safe. Many thanks for your extract from the globe about the Scotch River which I had not seen.

When I tell you I have only got to p. 80 & more is yet at a tortoise pace you will excuse my not writing as I live in dread of missing the season. The fact is that [*]¹ I cannot resist the temptation of throwing in at the beginning of vol.1 certain essays on the uniformity of the order of Nature, on the ancient Climate of the globe & other magnificent subjects which I had intended for vol.2. But they will come as well now & thus I have been writing each essay as it went to press.[*]² I will give you a receipt which will give you any time position you require for the tilgate beasts. On reviewing the whole phenomenon & especially my Sicilian & Italian collection of shells & the evidence demonstrable in Southern Europe not from arguments from
analogy but direct proofs. I am sure the climate has changed much since the tertiary & immensely since the secondary strata were formed.

Fleming fights well but clearly against the weight of proofs. Horsefields\textsuperscript{5} remarks on vulpes were only in private conversation & not those by others who could answer him.

Murchisons paper\textsuperscript{6} was well drawn up, the meeting full, the discussion unusually animated & your description or summing up of evidence read excellently & full of a sort of Caution which is deplorably wanting in Buckland’s last paper on the Iguanodon’s toe. He can swear to a genus from a rolled vertebra in Swanage bay whereas Cuvier cannot when he saw 20 from Loxwood & a femur &c &c. Your anatomical description of the fox\textsuperscript{7} c.\textsuperscript{d} not have been read at our meeting.

Pray be so kind as to let me have a large paper copy of your catalogue.

With compl.'\textsuperscript{5} to Mrs Mantell believe me

yours very truly

ChaLyell

Temple

Feb.\textsuperscript{5} 5. 1830.

[ Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex ]

\textsuperscript{5} Text between asterisks is quoted in Wilson, \textit{Charles Lyell}, p. 271.
\textsuperscript{6} R.I.Murchison, ‘On a Fossil Fox found at Oeningen near Constance, with an account of the deposit in which it was embedded’, [18 January 1830], \textit{TGSL}, 1835, 3(2), series 2, pp. 277-290.
Charles Lyell to G. A. Mantell

[15 Feb. 1830]

Dear Mantell

I shall be happy to send a box from you to Dr. Fleming & should thank you to make it larger than your things require & fill it up with hay in which case I will add things which he has written for. Leave me a third of the space if said box be larger & half if small. I am sorry that the blunder was made after I had seen “by waggon” written on it & expressly give directions but my clerk gave the box to a rascally temple porter instead of my own man. Your hand work in the front is really terrible & I am vexed to hear the partner does not work. You will be oblige[d] to take some decided step about him I anticipate for I think I remember you said you could be off on certain terms.

I have positively only to report progress to page 96 out of 500 perhaps. The fact is [*]¹ I have scarcely used a sheet of my prepared materials since I saw you & am now engaged in finishing my grand new theory of climate for which I had to consult northern travellers Richardson² Sabine³ & others to read up Humboldts & Danniells last theories of meteorology &c &c.

I will not tell you how till the book is out but without help from a comet or any astronomical change or any cooling down of the original red hot nucleus or any change of inclination of axis or central heat or volcanic hot vapours & waters & other nostrums, but all easily & naturally. I will give

¹ Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, pp. 261-262.
² Sir John Richardson (1787 - 1865). Scottish naval Arctic explorer, surgeon and naturalist. *DNB*.
you [*] a receipt for growing tree ferns at the pole or if it suits me pines at
the equator, walruses under the line & crocodiles in the arctic circle.[*]
And now as I shall say no more I am sure you will keep the secret. All these
changes are to happen in future again & iguanodons & their congener must
as assuredly live again in the latitude of Cuckfield as they have done so.[*]

Did I tell you that Bakewell[^6] with a sort of complimentary apology for
not allowing me to send the account of Niagara as I had given it? He says
that the severe winter or Siberian as he truly calls it makes him a prisoner.
[*] You have always some new discovery to announce. I believe with you it
would be difficult to exterminate pentacrites yet don't make too sure for if
my new heating & refrigerating theory holds water I may perhaps give you a
cold at the line which may freeze up the pentacrites. I have been reading at
the Admiralty the last dispatches of Cap.[^6] from S. Shetland. They
mention fathoming the sea at borders of Antarctic circle to depths of 900
fathoms! with a self registering thermometer. What a glorious depth. Ben
nevis could not make an islet if sunk there & they find the warmth increases
from the surface downwards, as you know in the Spitzbergen seas. Our new
Hydrographer, Beaufort[^9] is very liberal to all geologists & you may get what
unpublished information you like from the Admiralty & there is an immense
deal there.[*]

Remember me to Mrs Mantell & believe me yrs very truly
ChaLyell

Temple London
Feb.[^9] 15. 1830.

P.S. You will learn much from Sedgwick’s speech at anniversary.
Come if possible.

determine the specific ellipticity of the earth in 1828. DNB
March 10
Temple 1830

Dear Mantell

I beg to enclose you a little piece of fun which De la Beche threw off the day after our anniversary, only 15 copies. Murchison did not altogether like the quiz but was obliged to take it as a good joke. Pray observe the likeness of one of the waiters to Lonsdale. De la Beche says it was unintentional.

Did Murchison tell you that Featherstonhaugh\(^1\) in a letter from America says seriously that he thinks Geology will become “the Religion of Mankind”!! If so Adam the first of men as they call our Pres\(^1,2\) at Cambridge shall be an archbishop & you & I arch-deacons. F. is quite serious. He says they have a new Saurian in America to be Xtened Saurodon. Col. Silvertop\(^3\) has brought vertebræ of Paleotherium from S. of Spain! & it is quite right for the lacustrine shells are those of Paris basin. Fitton means to take his Maestricht shell I believe to your museum to compare.

How well your list looks in the Trans!\(^4\) Upon my word it astonishes me & I would rather have been the author of it than almost of any paper except

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\(^2\) Revd. Adam Sedgwick, President GSL, 1829-1831.


Con. & Buc. on S. W. Coalfield\textsuperscript{5} & one or 2 others.

I have only reached p.144 not having yet got through my introductory essays. I suspect when you see them you will not think that Gibbon-like I allowed bold speculations to be cut out.

I was so much threatened with a cold on the chest last week that I began to think Mrs Mantell might be taken at her word, but I am well again. Buy S.H. Davys, Consolations in Travel.\textsuperscript{6} 7s. Some fine things in it.

With remembrances to Mrs M believe me

yours very truly

ChaLyell

\textsuperscript{70}

Charles Lyell to G. A. Mantell

April 23 1830 London

Dear Mantell


\textsuperscript{6} Sir Humphrey Davy, \textit{Consolations in Travel, or the Last Days of a Philosopher}, J. Murray, 1830.
It is nearly the same to pursue a hobby as I am doing & to be professionally engaged & so you must excuse bad correspondence, but I assure you I am a mile or two further on by aid of the encouragement held out in your letters that the production will excite a sensation which tradesman Murray says is the great virtue of a superior author. as to merit he says that is not so much Sir, what we have to consider is sensation! So much for the market value of commodities.

By the way Sir Philip Egerton said at R.S. last night in commending you in a conversation with some one who had never heard of you (I wonder if he ever did of a certain Napoleon) said you were the author of the grand catalogue of Fossils in the Trans. which knowing your other works he selected as an extraordinary proof of your being “bien fort”. He brought parts of 31 individ.s of Ursus Speleus from German caves & a great jaw of Felix spelea pronounced by Clift & Co. to be equal in size to a horse! Buckland first pronounced your bone to be that of a deer & stood out for a long time ag. its being that of Goliah & when at the club others inclined to take your word told him he must be wrong he said “perhaps so – you know I knock under for not only had Mantell first taught what Coprolites were, but in Jamieson’s last he tells you that they are parts of animals, a piece of anatomical information somewhat new”. This was a fair joke against you in truth. He declared the bone to be postdiluvian & not mineralized & made light of it, but did not scratch it.

He is gone down to Lyme so there is something in the wind – a paper on the new beast perhaps, that fish-like concern which Mary A. wants to make a grand wonder of, & the Dr a memoir as I suppose. His & D la B.’s on Weymouth read last time is good, but some diluvial heresy tacked on at which I fired a shot. The iguanodon’s bones brought by them from I. of W. are rolled ugly unmeaning pebbles save one “subquadrangular vertebra” as Dr. B. says which he declares proves it to be an Ig. Even that is imperfect.

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1 Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, pp. 264-265.
2 The word ‘tradesman’ was omitted in this quoted extract in *ibid.*, p. 264.
3 Text between asterisks is quoted in *ibid.*, p. 265.
4 Text between asterisks is quoted in *ibid.*, p. 265.
5 Text between asterisks is quoted in *ibid.*, p. 265.
Sir H. Davy as you observe is full of genius in his ‘Consolations’.

Featherstonaugh has made an ass of himself by a poem on the deluge which is despicable low & vulgar to a degree that would disgust you. A few copies sent to Murchison which I suppose out of regard to F. he will suppress.

I am at p. 256 & still in hopes of saving my distance – the last milest. will I hope be reached at p. 440. I am clearing 30 such a week. believe me most truly yours.

ChaLyell

[ Addressed to: G. Mantell Esq. Castle Place, Lewes ]

My dear friend I suppose you have heard from Fleming who thanks me for my small additions & says your presents were invaluable. Write to him when you have a moment as it is a charity so to do for he is not in a happy position & a little disappointed so that he feels any attention much.

Take care how you have anything to do with Lardner¹ for although I have never had & always determined never to have any connection with him I have seen in his conduct to Fleming the most bare-faced shuffling want of good faith. I am almost sorry to hear that so good a man as Conybeare is thinking seriously of writing for L. a popular treatise on Geol.² yet you will rejoice

¹ Dionysius Lardner (1793 - 1859). Took Holy Orders but devoted himself to literary and scientific
with me that the Oxonian Logician is redivivus\(^2\) & also that we have some chance of his general views.

I forget where I was when you said it would require a 40 [page?] manpower to finish in time. I am now at p.320 expecting soon in a day or two not further than p.336. Now the question is whether if I can get it all into 440 or 450 pages. I may not be out in middle of June when I believe Murray would be glad to publish, for so much expectation has he raised that he John, begins to be eager to launch it. I hope to have done at latest by June 20 & care little now whether it comes out then or Oct.\(^5\) for what I must think of now as my reward is a run to the Pyrenees where I go post haste. Could you go as you once proposed as far as Paris with me about 14\(^{th}\) or 20\(^{th}\) of June as future plans may require. I should know within a month at least the precise day. In case of your being with me I could give one day & \(\frac{1}{2}\) to important tertiary geology on the way.

I will look after Deshayes when I go there at all events. I must if possible get to the Pyrenees the moment the snow is melted. I cross there with Cap.\(^1\) Cook\(^3\) R.N. a good old Spanish traveller & just returned from the country.

Have you seen the admirable plate of Buckland & Delabeche’s [sic] concreting of Duria antiquior\(^4\) or Dorsetshire as it existed at the era of the lias? It is really a a glorious restoration & has done much to popularising the the subject. You must positively have Tilgate forest restored to flesh & blood. The Plate was done for Mary Anning & will put much money in her pocket. Buckland was most entertaining last Frid.\(^7\) on Capt. Basil Hall’s\(^5\) N.American mastodon bones. Have you heard that Goldfuss has got a new Pterodactyl perfect says report even to the feathers (of which says Buckland they had none).

I am now doing volcanoes – earthquakes still to come besides a theory writing. DNB.

\(^2\) redivivus ( latin.) – ‘lives again’.

\(^3\) Samuel Edward Cook (d. 1856). Retired from the R.N. and settled in Spain in 1829. DNB. In a letter to his sister, Marianne, dated 9 July 1830, Lyell described him as follows: “Cook is a commander R.N., son of a country gentleman near Newcastle, well-informed, a good linguist, a botanist, and gets on in geology”. K. Lyell, LLJ-CL, vol. 1, p. 275.


\(^5\) Basil Hall (1788 - 1844). Royal Navy Captain who served on the GSL council from 1831-1833. Son of Sir James Hall. DNB.
about the wonderful changes now in progress in the organic world. [*]^6 You may form some idea of my book by a friend one of two who has read 200 pages asking me “Pray is vol.2 to contain facts – I trust not, for really we have had enough of them before”. He was no geologist, but a good judge of readable philosophy.[*]

with remembrances to Mrs Mantell & regrets that I am not ill enough to justify a visit to her believe me yrs very truly

ChaLyell

Temple 13 May
1830

[Addressed to: G. Mantell Esq. Castle Pl. Lewes]

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Charles Lyell to G. A. Mantell

[ 31 May 1830 ]

Dear Mantell

I have been too busy to write to you but was very glad to hear of your new Hastings bed & per [Relfe?] that you have sent up some trionyx. I hope Lord Cole has paid you a visit as he proposed – & exchanged some cave fossils with you. Pray has Fitton been with you? Is the room still hired for his fossils?

I have only reached p.384. But the printer owes me what would make it top 400 & I work on still under the hope of being out in June for though late in that month I think Murray could come out with it.

Broderip is evidently much hurt at not having a copy of your list of

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^6 Text between asterisks is quoted in Wilson, Charles Lyell, p. 273.
shells with which he had so much labour & trouble. He told me one way assuring him it was some mistake is that perhaps one that I brought up might have been for him that he ought to have had one long before. The fact is he laboured 5 years as Sec. \(^1\) & all he got for his pains were 2 or 3 quarrels with authors, & an illness in consequence of his hard application which if directed to his own hobby conchology might have produced a good work. So now he is rather in a morbid & irritible state about it – tho’ the best tempered fellow in the world.

Do not send anything now. But take an opportunity by & by of giving him a good copy of some of your works with the list in it, bound up with it. You may then say you believe you sent one before &c.

I am just called away & will try to add a few words by & by – sorry you cannot go to Paris. I think now I may take a different route. 6 o’ck. I must despatch this letter as it is post-time.

Phillip & Conyb. I am told is reprinting.\(^2\) This is good news as is the fact of your being in premium. for P. & C.’s work tho’ full of good matter is on the whole heavy for general readers. with remembrances to Mrs Mantell

yours very truly

ChaLyell

Temple

31 May 1830

[ Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex ]

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Charles Lyell to G. A. Mantell

[ 22 June 1830 ]

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\(^1\) William John Broderip was Secretary, GSL, from 1826-30. Woodward, History of the GSL, p. 297.

Dear Mantell

In great haste. when getting into the coach I send you an introduction to the principal Parisian Performer for a friend of his. I have sent last page to printer when stepping into coach. Go by Havre this morning. must conclude

ever truly yrs
ChaLyell

Temple
22 June
1830

A copy of book will be sent to you when out.

P.S. Don’t lose the Kentish story & go there by all means if you can. I believe it.

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Charles Lyell to G. A. Mantell

Hotel du Rhone
Rue de Grenelle St Honore
Paris Oct. 10 1830

My dear Friend         Since my arrival here I have been so fully occupied in matters that I could not defer that I have scarcely had time to write any but letters of business & I have put off for the last 4 days an intended letter to you which I am sorry for as [*]¹ I find from Pentland you have had the disagreeable job of dunning Deshayes again.

The Sieur D. as Murchison calls him is undoubtedly one of the most

¹ Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, p. 306.
“imperturbable” characters in these respects I have met with, nor can I
defend his conduct in this & some other such matters. It does not however
arise from anything dishonourable in his conduct or intentions. He was you
must know for 10 years a medical man, in considerable practice for a
beginner, in one of the unhealthy & therefore not well (or wealthy) inhabited
quarters. He had about 15 patients a day who kept [him] constantly at work
& never paid.[*] After a time he found that unless he prosecuted, dunned &c
continually he could never get a farthing out of the majority & he had not
enough “chien” in him as they say here, in plain english too little of the devil
in his composition to equal to the task. Many of the people too were
insolvents.[*]2 At last he determined to cut the affair & try to live on Nat.
Hist.3 which altho’ his passion he had abandoned.[*] He had reason to hope
for a place but here again he was twice out manoevred & out-jockied by
persons more fit for bustling thro’ this world, & the humble task of
collecting for the Museum &c.

He has too independent a mind to be a courtier & he made such rapid
progress as a philosophical observer as to excite the jealousy of Ferussac &
others while Bory St. Vincent4 after engaging him to go to the Morea in order
to prevent him from getting a Govern.5 appointment did not name him,
knowing that he could have got the credit in that case of the zoology.[*]6 He
has earned his bread with great difficulty by writing for encyclopedias &c &
spent every sixpence on works very expensive, on fossils & recent
conchology between £30 & 40 worth & on shells. Just as I obtained the crag
shells from you & Taylor,6 Rozet,7 who has published a small work on Geol.8
of no originality or value whatever, engaged him for 500 franks to write a
small conchological appendix & this prevented him entirely doing any thing
for me. Had I known this situation it would not have happened, but to tell the
truth his bearing was so independent that I should as soon thought of asking
Broderip or Deshayes to name my shells for argent comptant as D. Now I am
better informed I see that he is not justified in going on a day without pay for
he has sacrificed his existence to make himself for the benefit of science the

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2 Text between asterisks is quoted in *ibid.*, p. 307.
4 Text between asterisks is quoted in K. Lyell, *LLJ-CL*, p. 306.
first fossil conchologist in Europe. I have now engaged 3 months of his time to enable him to teach on conchology & to construct tables which I have planned for my second vol. of tertiary shells & to name all my Pyrenean specimens &c. At the same time I am enabling him to cut inferior work & to use the same materials for a Manual of Conchology. It will make a deep cut into the small sum wh. Murray is to pay in for vol. 2.\(^d\), £200 \(^7\) & will indeed consume all which the amanuensis & other extraordinary expenses had not eaten up but I find already that it will pay me in the satisfaction of giving an essential push to our favourite science.

Already the results of D.’s collection \(^*\) containing of Tertiary shells 35,000 individuals & above 3,000 species, examined according to my views, \(^*\)\(^8\) are yielding fruits unexpected by himself & very confirmatory of the order of succession of tertiary formations which I had arrived at from purely geological observations.

The crag though probably older than almost all the tertiary format.\(^5\) of Sicily is still a formation containing a decided preponderance of living species & between it & the London clay you will see how magnificent a series of events I will describe. As your fossils could not be properly compared till we come to those genera, for I am going through the whole comparing with D. you must let us keep them a little but I will not leave Paris without them.

Cuvier last night spoke with great pleasure of having made your acquaintance & hopes you will visit Paris. He is not in spirits about Political affairs & consequently I got him for the first time to talk about fossil anatomy freely.\(^*\)

The Pyrenean fossils as far as my collection is yet examined proves them to belong to the chalk era precisely. You would be quite at home there. Plagiostoma spinosa are in great abundance.

Deshayes has examined this summer 400 Maestricht shells & cannot identify one with a single one of his 3,000 tertiary species. Those which are true chalk species he says are rolled casts but this is a point for a geologist rather. The true upper green sand of Belgium near Mons has yielded about 200 shells mostly new species in a wonderful state of preservation from

\(^7\) The sum of £200 was excluded from the quoted extract in K. Lyell, LLJ-CL, p. 307.
\(^8\) Text between asterisks is quoted in K. Lyell, ibid., p. 307.
having fallen into certain vents in the old blue transition limest. in which the
sand did not get lapidified as elsewhere. The annexed is a section of all the
beds near Mons. The surface of the old limest. is eaten into at B.B. by
Pholadidae or at least marine perforators so it was a shore once & for some
time.

Upon the whole the Maestricht is a distinct zoological type having
perhaps a distinct connection with the chalk era “longo sed proximus
intervallo”9 & no connexion [sic] whatever with the London clay. I hope you
have got some new bones. write to me here. Do you want anything in Paris?
[*]10 Remember I have heard no geol.1 news for 3 months save the dinner to
Cuvier & a note from Murchison saying that Conybeare had fired a shot at
me in Annals of Phil. What is that about?11

Politics absorb all the thought of geologists here. There are croakers
enough about the state of France but I see no ground for it & I believe if left
to themselves they will get on. To do without some odious taxes, with an
increased army & with commercial bankruptcies innumerable is the difficulty
for the moment.[*] With remembrances to Mrs Mantell ever truly yrs

ChaLyell

[Addressed to: Gideon Mantell Esq. Castle Place, Lewes, Sussex, Angleterre]
My dear Mantell

Just arrived. saw your parcel of crag shells & all my own boxes safe to Calais where they were embarked direct to London to avoid expense – not yet come. In the near term I send you a set of what I may fairly style a handsome set & characteristic of the products – chiefly volcanic of the Island of Ascension. If you are not rich in volcanic rocks & those deposits of opal carb. & sulph. of lime, silex &c & aggregates which are now constantly forming in volc. archipelagos it will adorn your collection.

Most of the crag shells are quite identical with recent – yet as to its antiquity see Lyell’s Geol. vol.2 now furthering i.e. in 5 months.

I am building a cabinet, have purchased very largely in tertiary fossils & hope to send you some duplicates named of the Paris basin ere long with your crag shells &c. In the mean time I lose no time in sending you Adolphe Brongniart’s present who was highly delighted to hear of your new botanical discoveries. I send also a number of E. de B.’s & Duf. memoirs, they having sent me one as a present, in addition to one I had procured, which I beg you will accept.

I made Pentland set about getting you presents out of the Dieppe donanne which I was sorry to find had not been done & as I suspect forgotten. Look to it when you next visit.

I worked with zeal, diligence & much delight at the principles of fossil & recent conchology with Deshayes & shall after a time be of some use in that way. Meanwhile I must spare what time my book allows to collecting which I have so much & so carefully neglected.

Any fossil shells which you have pray spare me & think of me from time to time when collecting, especially when they are really conchological & not geological specimens. I may say I have nothing yet in the secondary way which is really good & any species whether of shell or zoophyte & of whatever age will be highly prized.

with rememb.\(^a\) to Mrs Mantell believe me

ever most truly yours

ChaLyell

Temple Lond.\(^a\)

Nov. 10\(^{th}\).

1830.

[ Addressed to : G. Mantell Esq. ]

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Charles Lyell to G. A. Mantell

[ 20 Nov. 1830 ]

My dear friend

The French & Belgians having turned out their ministries, & the parliament having done the same for once the fellows of the R.S. have justly considered that a radical reform was wanting in their institution. I suppose I need not tell you that Pettigrew\(^1\) has been urging on the D. of Sussex, that

\(^1\) Thomas Joseph Pettigrew (1791 - 1865). Surgeon at the Charing Cross Hospital and antiquary. FRS 1827. *DNB.*
our friend D.G.\(^2\) retired, & that 50 of the best men including Fitton, Sedgwick, Brown, Stokes, Broderip, Warburton, Chantrey, Wallich,\(^3\) Whewell,\(^4\) Babbage, Murchison, myself & others have signed the corrected requisition adjoined. I was asked to get your signature almost all the others have signed. It seems the only thing that can save us & there is a threat on the part of the Pettigrewity to put the Duke to a cross list!! It is now a mere question between the Duke & Herschell [sic], D.G. being quite out of the question. You will I believe join us in our endeavour to put a man of science at our lead.

On Wednesday a Mr Pratt\(^5\) of Bath presented to the G.S. the jaw of an extinct deer & the teeth of both Paleotherium & Anoplotherium from the Quarries of Binstead I. of Wight.\(^6\) He was on a tour & reading my book, saw the doubts about Allan’s\(^7\) specimen & the importance of the subject & set off to the point & in 3 days, with the few workmen who are there made these prodigious discoveries! I have written to Allan & am sure he will excuse my scepticism which has led to such results.

Many thanks for your generous offer of duplicates – for a long time I shall be too much engaged with vol.2 & getting up my new cabinet to profit by them. Let me assure you I shall lose not a moment in controversy, but recollect that the Q. Reviewer has misrepresented me. I always steered clear of assuming that the system had no beginning & in speaking of introduction of man I state that the experience of 3,000 years is thereby shown to be insufficient &c but enough of the siege of [Belliste?].

The critics have greatly helped the sale & I find that people not geologists buy it. Pratt says many at Bath have turned geologists in consequence. I am trying to stick to my work as much as this vile R.S. resolution will permit. As to the new ministry we may at least say they cannot do less for science than the last.

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\(^7\) On p. 153 of Principles of Geology, vol. 1, (facs. 1st. ed.), Lyell has a foot-note concerning an Anoplotherium tooth in the collection of Mr Allan, labelled, “Binstead, Isle of Wight”, and on which Lyell commented that a sceptic could suspect it was a Parisian fossil ticketed by mistake.
I hope you are well again. Of course you remember that we meet on Wednesdays now. I believe we should see more of you if you came up on Anniversary days. with rememb." to Mrs Mantell believe me very truly yrs ChaLyell

9 Crown Office Row
Temple

I have been quite exhausted with my exertions for Herschell – but glory in what I have done – Herschell is highly gratified himself – Fitton, Robert Brown & myself were chief workmen.

[ Addressed to: G.Mantell Esq. Castle Place, Lewes, Sussex ]

[ Set down below is the Petition for Mantell to sign and that accompanied Lyell's letter of 20 November 1830 ]

The undersigned Fellows of the Royal Society being of opinion that Mr. Herschel, by his varied and profound knowledge and the elevation of his personal character is eminently qualified to fill the office of President of the Society, and that his appointment to that Chair would be peculiarly acceptable to Men of Science in this and every foreign country, intend to put him in nomination on the ensuing day of election.
17th. November 1830.

P.S. sign between the x x

My dear Friend

I am sorry I did not see Mrs Mantell in town but the letter was left here when I was out. I am just starting for a hybernation in a colder country, in other words I am going home, to Scotland for 5 weeks – although I am sorry to interrupt my work & have put it off, yet I find after a good long absence that I am somewhat homesick & fancy that I shall work with better heart after my return besides gratifying others who wish to see me home again.

I am glad to hear that you are about again. I am the more annoyed at the practice you speak of when I recollect there are literally hundreds of quarries in England where amateurs might get things as good as Tilgate if they had but [rss ?] enough to examine them & that Tilgate is merely

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1 In late November, 1830, Lyell moved from 9 Crown Office Row to larger rooms at 2 Raymond Buildings, Gray’s Inn. In a letter to his sister, Marianne, dated 14 November 1830, Lyell described them as “very light, healthy and good”. K. Lyell, *LLJ-CL*, vol. 1, p. 313.
scratched because within your reach. You should however reflect that the impulse you have given this branch of organic remains is thus stirring up others, & you may feel some satisfaction even in the exertions to which interlopers are excited.

I should certainly publish what you have, & the new collection might probably on promise of being celebrated in your work give you the use of his things. I would not merely out of jealousy of his possessing them, miss collecting his good will & getting the possession which is the most real of the two, as anatomist & publisher – you might perhaps if you got the loan of them make him useful in paying for what you would then have the use of equally well. This of course would depend on the man’s disposition. all I mean is that I trust you will not come into needless collision with one who is free to sport on what is no man’s manor. If he is a gentleman & came to the meeting here we can all set at him & make him sensible how much to his own credit it will be to let you add all the facts & discoveries he makes to your work.

As I have refused every invitation except this which I now pay to my own family, you will believe me when I say that a visit to you would have given me more pleasure than to any other friend.

You will see in the next annals of Philosophy a reply\(^2\) not to Conybeare’s paper but to a somewhat personable & most unwarrantable charge of plagiarism in his last article of the preceding number.\(^3\) As Buckland had I am told given out the same thing at Oxford I am glad of the opportunity to give them a brief set down. Nothing in his paper provokes or deserves an answer on philosophical questions.

The D. of S.\(^4\) summoned a council at Kensington & many went & took down the mace! but as young Lubbock\(^5\) protested against the affair as beneath the dignity of the Soc.\(^7\), as he w.\(^d\) not go, & declared the proceeding illegal the Duke gave up the point it was called a presentation & not a council! Others now declare all the acts of the Duke are illegal & that he was

\(^2\) C. Lyell, ‘Reply to a Note in the Rev. Mr Conybeare’s Paper entitled “An examination of those phaenomena of geology which seem to bear most directly on theoretical speculations”’, *Philosophical Magazine*, 1831, 9, pp. 1-3.

\(^3\) See footnote 11, Letter 74.

\(^4\) The Duke of Sussex, newly elected President of the Royal Society.

not a fellow when elected as he had never been admitted, nor paid fees as by
bye-laws &c. Fine work this for Babbage’s 2 Ed.!

With rememb. to Mrs Mantell believe me
ever truly yours

ChaLyell

[ Addressed to: G. Mantell Esq, Castle Place, Lewes, Sussex ]

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Charles Lyell to G. A. Mantell

[16 March 1831]

My dear Mantell

You must have indeed begun to give me up but I have been
running a new case which I will blab to you in justification, though in
confidence since the case is not yet done.

[*] About 8 days ago I asked Sedgwick to sound Bp. of Lond. on the
propriety of adding a geological chair to King’s College & me as a Professor
& as he & others bit immediately & our least of all great men, our Oxford
Coppleston, Bp. of Llandaff, alone expressed scruples I was obliged to
canvas through my friend the Archbp. of Canterbury & several leading big-
wigs who all declared in the most handsome & liberal manner that they were
disposed to allow the utmost latitude to a geologist provided he came by his
theories as straightforward deductions from facts & not warped expressly to
upset scripture. Such were nearly their words – an interview with Copleston
did not quite assure me that he would not oppose, but I have already set so

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1 On the first page of this letter the date 1 Dec. 1830 has been inscribed on the top right corner. However, mid-way through the letter Lyell gave the date as 17th March. Both Wilson and K. Lyell, when referring to selected extracts from this letter, use 16 March 1831, as the date.
2 Text between asterisks is quoted in Wilson, Charles Lyell, p. 308.
3 Charles James Blomfield (1786 - 1857). Bishop of London from 1828-1856. DNB.
4 Edward Copleston (1776 - 1849). Bishop of Llandaff and Dean of St. Pauls 1828-1849. DNB.
5 William Howley (1766 - 1848). Archbishop of Canterbury from 1828-1848. DNB.
many orthodox reverend & one venerable & one Episcopal friend, to work upon him, that he seems disposed to stand neutral & we ask no more.

“A local habitation and a name” will be desirable to me & perhaps a good set of lectures under such auspices may afford me a profitable & pleasurable way of giving vent to some of the unreadable stories of geology information amassed in my travels. Scrope says “if all your views are thus taken at once into the bosom of the Church instead of having to fight their way for half a century, it will astonish me more than the passing of two reform bills”.[*]

Scrope has been reading a paper on the ripple-marked oolite sandstone of age of cornbrash with lots of long worm marks or things thrown up by burrowing animals & on the same slabs the most clear foot prints of an animal no-one knows.

A slight mark in the middle where the tail or body touched seemingly - there being only two marks is a puzzle – but had there been 3, it c. not be a bird because they don’t leave 2 lines.

17 th. March. – Went to Council of Geology & got a frank for one of our young & active geologists for today & on returning home at night found your letter inclosing Sauls dream. A Sir J. Byerly Bart. has also sent me 4 sheets of a similar theory which poor fellow he says has kept him awake at night 6 months. An American of Philadelphia, Spafford, also writes on seeing my book in the same strain, whether Sir R.P. has bitten them all or whether at certain seasons the rabid influence seizes on certain victims I know not but a French man called last y. with a bundle of papers & had

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come to Engl. to publish them – just the same sort of notions termed “Astronomical Geol.”.

Murchison is our President & receiving Members on the Sund. following the meetings of G.S. good musters. As the Proceedings have been most punctually sent off to you the very day they come out pray write at once to Relfe or whoever your wretched Lond. agent is to have no more to do with it & let me send them. Until next order they must go on as before.

[*] I have been within the last week talked of & invited to be Professor at King’s College of Geol.– an appointment in the hands entirely of Bp. of Lond., Archbp. of Canterbury, Bp. of Llandaff & two strictly orthodox Doctors Doyly & Lonsdale. Llandaff alone demurred but as Conybeare sent him (volunteered) a declaration most warm & cordial in favour of me as safe & orthodox, he must give in or be in a minority of one. The Prelates declared “that they consid. some of my doctrines startling enough, but could not find that they were come by otherwise than in a straightforward manner & (as I appeared to think) logically deducible from the facts – so that whether the facts were true or not, or my conclusions logical or other wise, there was no reason to infer that I had made my theory from any hostile feeling towards revelation”. Such were nearly their words. Yet Featherstonaugh tells Murchison in a letter that in the Un. States he sh. hardly dare in a review to approve of my doctrines – such a storm would the orthodox raise against him! So much for the toleration of Ch.-Estab. & No ch.-Estab. countries. It is however mainly a proof of the comparative degree of scientific knowledge diffused.[*] Don’t talk of this till you see it announced.

[*] Pray be so kind as to give me the earthq.: A shock in Sicily which threw down Melazzo seems to have occurred nearly on if not on [the] same day as Dover. Another just announced in China has killed they say a million of men – all in favour of modern causes – it is an ill wind &c.

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8 Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, p. 316.
11 Text between asterisks is quoted in K. Lyell, *LLJ-CL*, p. 317.
The young Prince G. of Cumb.\textsuperscript{12} told me the other day of you & the great lizard which last has taken much hold of the imagination. Tis clear as Abernethy\textsuperscript{13} s.\textsuperscript{4} you will ride on that beast &c.

Don’t throw away any great big specimens for if I lecture I shall be as greedy for them as I have hitherto been shy of them. I will get a scene-painter to put Etna & Auvergne on scenes as large as in a theatre, on canvass from Scrope’s & my sketches. Scrope writes “If the news be true & your opinions are to be taken into the bosum of the church instead of contending ag\textsuperscript{st} that party for ½ a century, then indeed shall we make a step at once of 50 years in the science – in such a miracle I will believe when I see it performed”.[*]

I send you a piece of De la Beche’s fun. Buckland shows it & says it is Lyell’s skull – which is lectured on, & the whole may peep into [futurity?].

If you cannot get the proceedings published, I will try to send you them & another pamphlet on R.S. on a large frank.

ChaLyell

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Charles Lyell to G. A. Mantell

2 Raym.\textsuperscript{d} B. Grays Inn


\textsuperscript{13} John Abernethy (1764 - 1831). London surgeon and lecturer in anatomy. \textit{DNB}.
March 18 1831

My dear Mantell

Marcel de Serres says that he & another chemist found human bones in a Gaulish sepulchre 1,600 yrs old which were harder or “more solid” than those of a part skeleton though the “cellules of their tissue were empty”. They were of a yellowish-white like cavern bones. When mentioning this I wish to bring in “The hard solid femur found by Mr Mantell in a Saxon tumulus”. I think Buckland said it was not mineralised – how many years will you guess it to be old? & have you a sentence to help me to, well turned, about it.¹ I am talking of human bones in French caves – analysed & comp.² to old buried bones.

Let me trouble a word on a less agreeable subject. My father has been obliged to have a truss for a rupture on one side. He got it of Salman & Ody. Are they amongst the best makers? The direction was, by some Edinb.³ Doctor, to order a truss 42 inches. My mother writes me word that altho’ it fits yet he fancies the pressure must be rather too great. Now I suppose that the degree of pressure must to [be] useful, be a little inconveniently great? & still probably be felt? Any hints as to best makes or caution as to wearing one too tight or too easy will be most acceptable. Mr Th. Bell of 17 New Broad St. is going on with speed & the Hospital is going to have a whole room of comparative Anat.⁴

In haste believe me most truly yrs

ChaLyell

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My dear Mantell

I did the honours of your skull & read an extract from your letter on the homo diluvium testis to the satisfaction of a summer meeting last night – which told the better as there was a very short paper only read by Archd. Scott\(^1\) on Swan River.

The whole Paper was in a few words a Sienite range & primary inland a few miles & near the shore blown calcareous sand like Cornwall concreted into rock a.a. & including petrified trees or as some will have it stalactites. I rather think the sand & carb. of lime does form round trees & their branches, that there is a solution of carb. of lime by rain water acting on fine dust from shells comminuted & which containing animal matter give out carb. acid gas on putrefying – b.b. is a ferruginous – cal.\(^1\) sand below level of sea containing existing species of New Holl.\(^4\) shells of same easily petrified.

From a cave (in that district we suppose) but Jamieson keeps that close till next No. were sent bones in stalactites as at Kirkdale & what do you think Clift found them to be? A Kangaroo & a Wombat! & with them one great bone (humerus or what I forget) some beast as big as a rhinoceros!, a terrestr.\(^1\) mammifer, Clift fancies!

If I remember to bring down with me my correspondence with a refractory Bp. about the K.C. when I am ill & want Mrs Mantell’s nursing, you will be amused. The terror evinced by my openly declaring that I meant

\(^1\) Archdeacon T.H. Scott, ‘Geological Remarks on the vicinity of Swan River and Isle Buache or Gordon Island on the Coast of Western Australia’, *PGSL*, 1826-1833, 1, p. 320.
in vol. 2. to attack the universality of the deluge was such that if printed it would frighten folk more than all T. Payne’s work. But yet I believe I shall be elected nevertheless but these councils don’t sit often.

I believe the reform bill will pass with some units added. “you know,” said D. Gilbert to me, “that I always was for reform” &c preface to a speech to explain his voting ag. it & now, to compleat his character he is s. to be about to vote for! At the Roy. club, the Duke of S. not knowing that Guillemard was D. G.’s brother in law said in Guil’s. presence “Well so D.G. is not here today, what a providential thing it was, that he was not made a woman eh? he must have been a whore eh? he could never have said nay”. “If D.G. was to hear that,” said Guilemard with his smiling countenance [“]no doubt he would be delighted, please your Royal Highness”. His R.H. took this as a comp. to his joke. A great Botanist a violent opponent of D.of S. but one who was equally ag. D.G. “Well, if the Pres. says two things more as good as that I shall say he deserves the chair”!

The R.S. have got the room in the middle of our suite in Somerset H. but perhaps the R.S. will get the R. Acad. rooms soon & the R.A. some others. I don’t know why but I am hardly writing vol. 2 with the spirit of v.1 – yet tho’ slower I hope it will not be inferior. most truly yours with many thanks for Mrs Mantell’s hospitable wishes for my being an invalid,

believe me ever truly yrs

ChaLyell

I have sent off one of Cole’s machines.

[ Addressed to: G. Mantell Esq. Castle Pl., Lewes ]

81

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My dear Mantell

Mrs Mantell paid me a flying visit the other day but went away in fear of trespassing on my valuable time after only taking a glance at my cabinet, or rather one or two drawers in it. I did not even learn when she was to be back, or where I could send a note to her in town.

I have been putting off & off a visit to Lewes under the hope that I should be able to show you my first sheet of vol.1[?] so that an equally good omen might attend it, & the more so that it relates to the organic world & your own department. But I have not got the press yet – though I move on regularly – but I am nearly done up notwiths. Mrs M paid me the compl. of looking too well.

I will take my chance of finding you disengaged next Sat. the day after tomorrow to return here on Monday or at latest Tuesday. I shall not have time to get an answer but am so engaged in different ways that if I put it off till Sund. I should be unable to stay a whole day for certain tho’ I hope to get 2 days returning here early on Tuesday which I think I might do. If you can continue to go with me, not to the coast near Brighton for that I think we have done but somewhere into the Tilgate beds or in fact anywhere you like so that I could be idle & geologising in the book of nature & not printed book, least of all my own, it would set me up I am sure. I must do this by stealth & not let my uncle at Brighton nor other folk to whom I owe visits know that I have been away from town.

I forgot to tell Mrs Mantell that I had been unanimously elected for King’s Coll – a week.

I have much to tell you of New Holland caves, regular Kirkdale with Kangaroos &c & other news but shall reserve them.

meantime believe me

my dear friend very truly yours

ChaLyell

1 Mantell’s Private Journal records that Lyell followed this planned schedule but it does not contain any other details of his visit. GAM-PJ, entry 2 May 1831.
G. A. Mantell to Charles Lyell

Castle Place May 15. 1831

My dear Friend

I am very anxious this fine weather should not pass by, without our availing ourselves of it, to visit Horsham and therefore I earnestly entreat you will name as early a day as possible for meeting you there. Let me hear from you on the day previously, and I will engage to meet you there.  

Mr Smith came over on Thursday and made a very interesting sketch of the valley of the Ouse from the turrets of the Castle. I called on him last evening, and had the pleasure of seeing all his sketches. Some of them are very beautiful, and all of them interesting. The Castle Cliffe at Hastings I quite covet. He leaves Brighton by the end of next week. Dr. Fitton has written to request me not to wait for his papers!! as he declines figuring & describing my unpublished shells of the Hastings series, lest he should be compelled to hurry on his paper on my account. What an excellent successor Dr. F. would have made to Lord Eldon! “and the chancellor said – I doubt!”

I am very desirous to know what you did with Mr Murchison’s paper on the Fox pray inform me. Why I am most solicitous about it is this – that if he gives me ‘honour due’ I shall like to have a few copies of the paper printed at my own expense for my friends – if he does not, of course I shall

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1 Transcribed from a transcribed copy at ATL. Original letter at APS.
2 Lyell arrived at Horsham on Saturday morning, 21 May, and was met there by Mantell and visited Stammerham quarry. On Sunday Lyell wrote and on Monday the two men visited the pits at Pounceford. *GAM-PJ*, entries 21-23 May 1831.
3 Revd. Thomas Smith, was an uncle of Lyell on his mother’s side. His visit to Mantell is recorded in *GAM-PJ*, entry 13 May 1831.
5 Refer footnote 6, Letter 67.
not care about them. I went to Shoreham yesterday to visit a manufactory of cement: the septaria from Bognor rocks are employed. I was delighted to find blocks of wood with teredines, & beautiful groups of shells of various kinds. I treated the workmen and expect to get a good supply of beautiful fossils. On my way I examined a recent section of the low cliff between Shoreham and Brighton beneath the rubble, and with a little shingle at the base. Depend upon it you are right – it is crag & nothing but crag: on the french coast it is the same. Dover Cliffe I mentioned to you. Near Chatham, in the Valley of the Medway, there have lately been discovered in a deposit of fragmentary chalks, flints, clay & sand, teeth, & bones of Elephants & Hippopotami. At Herne Bay on the Kentish coast, bones of mammalia are as abundant as at Walton in Essex. The Elephantine remains at Brighton are well known to you. They are as abundant on the Suffolk & Norfolk coast. The prevalence of the shells in the crag of Norfolk &c & their absence in Sussex, is nothing more than is observable in other deposits – the Shanklin sand of Sussex does not contain a single fossil except at Parkam & Pulboro’. The chalk which filled up the English Channel appears to have been the grand basis of the Crag deposit, & the surrounding countries must at that era have been peopled with Elephants &c &c.

In the sand at Shoreham Cliffe I found some concretions which I think are like the lightening tubes - I reserve them to show you.

A poor fellow of the name of Thomas Anguish! (what an appropriate name) who has been collecting fossils many years, & exhibiting them about the country unfortunately for him was induced to bring them to Brighton to exhibit. Alas! for our trade, he has not had half a dozen visitors, and is obliged to dispose of the collection if possible. He offered me the whole for £20. There are numerous polished sections of Ammonites from the Lias, some coal plants – many shells from various formations. The collection would form a good nucleus for a museum. It occurred to me that £18 or £20 would be well expended if you have the privilege to purchase for your University, and I ventured to refer the poor fellow to you. He knows nothing of Geology, but is a dear lover of organic remains. The collection is quite miscellaneous but contains many good things, & must be cheap at from £20 to £15. It is not a little curious that this man discovered on the beach near the Chain Pier at Brighton, an enormous orthocera from the transition limestone, which had probably been brought there as ballast. I gave him 10/- for it out of charity –
it is two feet long!

Did you remember to write to Mr Scrope for the impression of the unknown feet? — Pray do your utmost for me.

I have this morning heard from Prof. Goldfuss of Bonn. He has sent me a long list of desiderata – principally secondary shells figured Sowerby, which he wishes sent to the University in exchange for Cavern bones, Maestricht fossils &c. I have sent him, & can send him more, fossils of the chalk & Tilgate Beds, but I have few others for him. Can I hand over the list to any one who will undertake it? He will give in exchange “quelqua cranes tres bien couservees de l’hesus spelaeus de Gaileuarthe, a present tres rares et precieux”. When you see Dr Fitton pray present him with “mille compliments” from Goldfuss whose 3d livraison paraitrait incepaciment [sic].

Let me hear from you my dear friend as soon as possible. Can you send a parcel to Dr Fleming? Ever yours

G. Mantell

Lord Cole did not send me a single fossil in return for a beautiful series I sent him. Will you remind his Lordship.

[Addressed to: Charles Lyell Esq. 2 Raymond Buildings, Grays Inn, London]
I take the largest sheet I see near me at the Athenaeum to write an apology for my remissness. A visit to Cambridge of a week with Buckland, Conybeare, Daubeny & other Oxonians who were returning a visit which the Cantabs made to them was the first cause of silence.

We were lionized with a vengeance, lectures, experiments (optics polarization), feasting, geologising & even. party going, & nocturnal smoking cigars & by way of finale Conybeare & I took our ad eundum degrees & were admitted M.A.’s of Cambridge. Then came an arrear of work here, & my father & brother in town gave me lots of interruptions. Notwithstanding all which as also much lionizing of Conybeare who wanted to be introduced to divers persons, I have reached p.110 of printing vol.2.

The 4 great slabs are 2 of them worth nothing but the other two are as magnificent specimens of the forms of ripple as I ever saw. Many thanks. Murchison & his wife are gone to make a tour in Wales, where a certain Trimmer has found near Snowdon “crag” shells at the height of 1,000 ft., which Buckland & he convey thither by the “deluge”. It must be looked after – what an elevation in the “post-pliocene” period of Lyell’s vol.2. would this make! We know nothing of our island yet. De la Beche will, in a fortnight he says, come out with his vol. on Geol.

For heaven’s sake, don’t buy Macculloch’s ‘System’, £1-12-0. I am in for it though I had the whole 10 years ago i.e. vol.1. – the arts verbatim sold by him to Brande’s Journal – vol.2, a reprint of his costly spun-out book on “classification of rocks” which was filched out of his Western Isles. Not an illustration in this £1-12-0 book, 2 vols., ill printed.

Wed. De la Beche I fear has been writing his in too great a hurry.

You heard of Fitton’s accident? Changing his residence as usual – going from his country seat near Sevenoaks to a new place 11 m. N. of town –

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7 Text between asterisks is quoted in K. Lyell, *LLJ-CL*, vol. 1, pp. 318-319.
8 Text between asterisks is also quoted by Wilson, *Charles Lyell*, p. 314.
9 Quoted extract in Wilson ceases at this point.
taking a maid serv.\textsuperscript{1} to Harley S\textsuperscript{1} in a gig – horse ran away in Regent's park – dashed ag.\textsuperscript{1} a gate. Fitton’s arm s.\textsuperscript{d} to be broken high up but Brodie\textsuperscript{15} can’t make out where – feared that the blade bone was injured but hope not as Dr F. is doing so well.[*]

I shall make my clerk transcribe a piece of Conybeare’s fun which he has composed here this morning hoping Delabeche [sic] will add a caricature. I helped him to the “tories & thieves”. I can turn over this side & not betray our secrets.

The fructif.\textsuperscript{n} of the fun was a catch – much was paid for a case of that in a coal plant by Brown. I know there is a super-crag elephant bed in Norf.\textsuperscript{k} like Broughton’s.\textsuperscript{16}

[*]\textsuperscript{17} Lonsdale says that the grand femur of which Trotter\textsuperscript{18} has given us a cast was of an animal that had paddles. What is the largest paddle bone you have? No room to talk of age of reptiles.[*] With rememb.\textsuperscript{9} to Mrs Mantell believe me ever most truly yrs

ChaLyell

Lond\textsuperscript{n} Wed.\textsuperscript{y} June 22, 1831.

[ Addressed to: G. Mantell Esq. Castle Place, Lewes ]

\textsuperscript{14} Text between asterisks is quoted in K. Lyell, \textit{LLJ-CL}, p. 319.
\textsuperscript{15} Sir Benjamin Collins Brodie (1783 - 1862). Surgeon and comparative anatomist. \textit{DNB}.
\textsuperscript{16} Samuel Daniell Broughton (1787 - 1837). Army surgeon who also engaged in scientific studies. \textit{DNB}.
\textsuperscript{17} Text between asterisks is quoted in K. Lyell, \textit{LLJ-CL}, vol. 1, p. 319.
\textsuperscript{18} During the second half of 1831 Mantell referred to Trotter several times in his \textit{Private Journal} as having intruded into Mantell’s ‘territory’ and poached some magnificent fossils from the Cuckfield quarries. \textit{GAM-PJ}, entries 1 July and 2 October 1831.
This is amongst the most recent of the extinct species; it appears to have prolonged a lingering existence long after its congenerous races and to have flourished even during the historical period, its geological site being the newest bog formation as is evinced by the statements of Our King in his able sermon on the Irish Peat Bog, published in the Phil. Trans. 1685. “The bogs”, he said “afforded a shelter & refuge to tories & thieves & some of them as well as an incalculable number of cattle had been lost by falling into sloughs”. A corpse, he adds, alluding evidently to those of tories, will be entire in a turf bog for several years.

As its generic name indicates it was totally unprovided with any efficient weapon of defense, indeed from the organisation of the skull, which as in all the congenerous anoplotherix is nearly related to the Swinish Type, it may be inferred that it could only have possessed a degree of instinct so low as must have incapacitated it from employing such instrument to any good purpose. The conformation of the orbital position of the forehead is likewise remarkable & must evidently have incapacitated the animal from viewing objects in more than one direction: this part is furnished with singular projecting proceps forming a sort of natural hoodwink - the animal being apparently incapable of sustaining much light and therefore requiring such an apparatus on the principle of the conservative system. Its organs of progression are (as in the Bradypus) very imperfectly developed and indeed the general appearance of inactivity and inefficiency can be paralleled only in
the Sloth tribe. But it should be mentioned that as some kind of compensation, the structure of the claws (as in the Megalonyx) appears to have been singularly calculated for grasping, tenacity, and climbing.

Its extinction has been ascribed by theoretical writers to the sudden increase of light in the system, which, as we have seen, must have been perfectly intolerable to this animal. Were Geologists more sentimental they could scarcely fail to be affected with some feelings of pity for the poor defenceless creature thus exposed to be jostled out of existence by newer races whose organisation was more accomodated to the circumstances of the times & which we may suppose to have been only stimulated by causes which must have proved fatal to our Paleotorium.

It has been conjectured that the era of its disappearance was accompanied by much partial disturbance, and a considerable change in the constitution of the region which it once inhabited. Many symptoms of bouleversement and dislocation appear in the formations of this geological epoch, and it must be altogether characterised as an age of revolution.

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Charles Lyell to G. A. Mantell

[ 1 July 1831 ]

My dear Mantell

I am obliged to leave town for a few days & to run down (not geologising) so that I must be brief for it has been rather a short summons. L. Cole whose offices runs these franks begs I will not forget to assure you that he has been prevented only by having being unable to unpack boxes from communicating with you; that you may depend on having the
things which you are to expect from him &c &c.

How I wish you could see the splendid whale Balenoptina (not mysticitus) which we have just been visiting at Charing X; Cole, Egerton, Lonsdale & I. It is by far the most magnificent skeleton I ever formed a conception of & most imposing, worth coming up to town for.

The hamper with chalk fossils is arrived & I have only been prevented from unpacking by the unfinished state of the room at K. Coll which is to receive them. In the meantime for some splendid fish which I saw at the Town receive my thanks. Egerton & I by way of putting Lonsdale on his mettle said you had written me a letter which settled the affair of the tibia of Troth & that L. was clearly wrong. So he got Cuvier & lots of bones.– gave us a lecture. He protests it is no tibia - says that the bone having radiated striae shows it to be – (I forget what) but showed you to be wrong. That it must have had a paddle. He lectured on Deville's cast – which by the by looks a splendid performance.

On reexamination I find the slabs of Horsham stone all useful – for some point or other.

As I have not your last letter by me & cannot go home for fear of missing the Post I may miss answering something but excuse it. I thought the age of reptiles\textsuperscript{1} excellent & very susceptible of an amplification into a longer essay. You do much for popularising the science & not a little by turning it to political squibbing in these days of politics.

Conybeare is a strange fellow don’t ask me to account for his doing this or that. He carried a letter of introd \textsuperscript{2}, sealed, to a french nat.\textsuperscript{3} in which his friend called him “an odd fish” which came out from Mons.\textsuperscript{4} le zoologer who had difficulty in interpreting at last seized on that part & said “Ah, je vous suis bien oblige mais ou est le Singulier poisson”? When he went down to Herschell’s [sic], Mrs Stewart, H.’s mother in law said “H. is so busy he sees no one, yet he is so kind to foreigners I dare say he will see you”. He was so much pleased with your letter that it was queer his not recollecting that a reply was a natural civility. He has hair gone long. Fitton is getting

better.

I am at p.150. Be assured I shall not dare publish the weald theory without your aid. As I shall insert the comber, the view looking up, I should much like a hypothetical section of the fault & give it as yours. Never fear dashing at it like this; but as it might really be.

with rememb to Mrs Mantell believe me ever most truly yrs
ChaLyell

London  July One  1831

[ Addressed to: Gideon Mantell Esq. Lewes, Sussex ]

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3 In ibid., (note 2), p. 301, the following figure was significantly modified (No.76). Lyell’s footnote acknowledged his indebtedness to Mantell for the section.
My dear Mantell

I am just returned from an expedition for my health to the Rhine volcanoes & those of the Eifel between the Rhine & Moselle, of 5 weeks which was suddenly determined on the peak of a monastery & which like many off-hand schemes has turned out very well, Noggerath\(^1\) & Oeynhausen\(^2\) at Bonne [sic] having provided me so well with maps & instructions as to render me independent of the cramming which I should otherwise have previously thought it necessary to get at home before embarking on such an excursion.

I found the Eifel craters differ essentially from any in Central France or Covior, or Tuscany, or Naples, or Sicily, or Catalonia – & still more from any of the submarine volcanic phenomena of modern periods such as Val di Noto, Euganeans, Vicentin &c – principally in this that altho’ every explosion has been one of fire & fusion not “of air” as some have asserted, yet the transition sandst. & shale has escaped so marvellously from being burnt, it has been blasted so often without being melted or altered that there is some ground for saying that they were holes blown out by clastic fluids. The wind took the scoria to one side – most of them were single eruptions, on one spot each, & perhaps short eruptions, & 3 parts of a crater may exist of walls of the original sandst. &c the other side of lava scoria &c but more of this in vol.2.

Buckland’s case of diluvium posterior to one of these cones (the Rothenberg near Bonne) is a clear blunder. The gravel was there before the volcano & contains not an atom of scoria &c. The eruption burst out in a platform of older rock covered by a dense old alluvium & if the latter is seen on one side of the cone & crater it is mainly because so also are the unscathed aboriginal rocks of the district.

\(^1\) Jacob Noggerath (1768 - 1840). Professor of Mineralogy and Mining, University of Bonn. Sarjeant, *G & H of G*, vol. 3, p. 1796.
Goldfuss was ill in bed when I called first – afterwards when I got a sight of him & offered to take any thing to you he said he was to hear from you first &c before he proceeded – but Noggerath at last sent me a packet in which is a little tiny parcel for you written I think in Goldfuss’ hand-writing, opened at Customs House.

The paper on the ripple-marks is excellent & am sure will call attention. Have you seen Scrope’s paper in Roy.1 Irish Journal on the subject.

Goldfuss parcel contains I believe a few teeth of Maestricht lizard. Where shall I send this packet abt the size of my fist. This tour has not accelerated vol. 2 – but I am always crawling & have scarce arrived at correcting proofs of middle of book[.]  with kind remem. to Mrs Mantell believe me ever most truly yours.

ChaLyell

2 Raymond B.
Grays Inn
Aug. 13. 1831

P.S. Fitton’s arm is in air again & he can travel to & from his country house & will I hear get quite over it.

Do not dub me Professor Lyell the title I think is at a discount in Lond. & with reason after L.U. concerns.

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4 There is no paper on this subject by Scrope published in the Royal Irish Journal. Lyell may have had in mind Scrope’s paper, ‘On the rippled markings of many of the Forest Marble Strata north of Bath and the foot tracks of certain animals occurring in great abundance on their surfaces’, PGSL, 1826-1833, I, pp. 317-318.
Charles Lyell to G. A. Mantell

[30 August 1831]

My dear Mantell

[*]¹ I hope you got my letter after my return from Germany? – since that I have been detained here much longer than I expected & am now on my way to Scotland – first to Edinb,² thence to Forfarshire. I wish much to hear from you as your silence has made me uneasy – write to me here – & your letters will be forwarded free to me wherever I may happen to be at the time in the country.[*]

I told you I had a little box from Goldfuss for you which I will now send to Relfe – containing teeth of Maestricht animal. If you wish to send anything to Dr. Fleming my man follows me a few days after my departure & if you packed it up forthwith he would take it. A letter also to the Minister would be useful for I see by a letter just received that he feels himself deplorably out of the world.[*]

[*]² Barrow³ has sent me a box of specimens from the new island thrown up off Sicily in a spot where I did not at all look for a submarine eruption but am nevertheless well satisfied therewith. Chocolate-coloured sands & scorie of same hue. The Brittania man of war passed over the spot some months ago & feeling her bottom struck as if by a rock (slight earthquake) she sounded & found 80 fathoms[.] now the isle is 200 f.¹ above

¹ Text between asterisks is quoted in K. Lyell, LLJ-CL, vol. 1, pp. 329-330.
² Text between asterisks is quoted in ibid., p. 329.
³ John Barrow (1764 - 1848). Traveller and author. Second Secretary to the Admiralty. Created baronet 1835. DNB.
water – & is still growing. Here is a hill 680 feet with hope of more & the probability of much having been done before the Brittania sounded.

I congratulate you, one of the first of my twelve apostles, at Nature having in so come-atable a part of the Mediterranean thus testified her approbation of the advocates of modern Causes. Was the cross which Constantine saw in the heavens a more clear indication of the approaching conversion of a wavering world? – more especially as the first box of specimens from the new isle came through the Post office by the Mediterranean steam packet & was presented by Barrow to me before he had opened them himself 8 or 9 days after they had been thrown up, hissing hot.[*]

It is a miracle which beats Sodam & Gomorrah hollow, especially now that Daubeney & others have had the audacity to prove that that was a mere ordinary event. remember me to Mrs Mantell & believe me ever most truly yrs

ChaLyell

Aug.' 30, 1831

P.S.    Sedgwick in a letter to Lonsdale today says “How does the green sand fall through Fitton’s hour glass?”

[Addressed to: G. Mantell Esq. Castle Place, Lewes, Sussex]
My dear Mantell

I have received the box from Dr Fleming within a day or two from Scotland, he promised that I sh. have it in time to bring it with me but in consequence of his delay it has followed me. The Dr writes me an irascible sort of letter about his geological ‘faes’ & seems as savage & dangerous as a dog chained up, as he is unfortunately at Flisk & is therefore obliged for the sake of excitement to work himself up into a rage. Seriously however the letter is such a hostile demonstration in terms of proposed peace, & against the most amicable of our friends who bear him no ill-will that I am quite concerned to see it. I got him to come to my father’s for two days & was in hopes I had pacified him. I am happy to think that I am on excellent terms with all my controversial antagonists as yet – altho’ I might not be so if shut up at Flisk.

I have printed 350 pages only – & shall be 8 weeks before I am fairly out I fear.

My occupations have left me little time to answer since my return two letters from Lewes. First I beg to return my thanks to Mrs Mantell for the amusement which Horatio Smith’s news afforded not only me but the whole party at Kinnordy. I am sorry I am not a poet for her sake.

I have also to regret that I have never met Kirby’s niece of whom you say such delightful things “the one” whom you have selected as a fit companion for me, but I will introduce to you perhaps next summer another person, that you may judge how much resemblance there may be between two persons whom we have both selected for the same place. Mine unfortunately has never cultivated any taste for Natural History nor for any branch of science or would not perhaps acquire any easily though sufficiently able as a reader to enter into to enjoy popular works on science.

I am quite of your mind in thinking that the enviable qualification in a woman is a power to appreciate her husband’s pursuits & to like them without being so very enthusiastic in them as that they sh. absorb some of the tenderer feelings of the heart. But I will not mask any mystery to you of my intended marriage.

I went over to Germany in a great hurry to ask the hand of Leonard

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1 Letter not dated by Lyell. The indicated date has been deduced from its context.
2 Horatio (Horace) Smith (1779 - 1849). Poet and author. Younger brother of James (“Rejected Addresses”) Smith. DNB.
Horner’s eldest daughter Mary whom I believe you never saw – whom I have known some years, & being successful in my errand had to wait till she got her father’s consent who was then in Scotland. They choose that the marriage sh. take place at Bonn & according to the formalities there regard (cadre Nap.) 6 months domicile of one of the parties as necessary after due notice given so that the ceremony c. not take place till April & as I shall then be just beginning a short course of lectures it is agreed that I am to get over that affair at K. Coll. first & then enjoy my holidays which I shall have earned. Perhaps the delay is fortunate for my reputation, both on account of vol.2. & the lectures, for as it is I know not whether I shall get thro’ all as well as I c. wish, yet I hope so. The lady is 10 years younger than me & altho’ I sh. fully agree with you that this is more disparity than may be desirable for one who lives so quiet & secluded a life as a geologist ought to do at home yet I know you do not prohibit such a difference in your rules, & would grant that the disposition of the lady in these respects is of more importance than the age, & it is in this that I feel quite at ease.

I shall have no money with her at all, which is certainly an act of imprudence on my part, but I feel confident that my wife will be satisfied to live in a very quiet way & I know that I shall. I shall not say anything of her accomplishments or beauty as of course you will not consider me a very cool & impartial judge of those matters at present. I gave her an extract of your letter about “the one” and she has been very inquisitive since to know if I ever met her at Lewes.

Pray let me hear what you had been doing besides writing letters about the Deacles to the great scandal of my tory friends. You will be glad to hear that Bell is lecturing at Guys Hospital to 85 students of comparative Anat. He has got over the fossil teeth from Annington a form new to Europe, at least not now European.

King’s Coll. made a decent start. There are now 90 regular students and 300 occasional lecture goers & 90 boys in the Junior Department. I sh.

3 Mary Elizabeth Horner (1808 - 1873). Eldest daughter of Leonard Horner. Engaged to Charles Lyell 12 July 1831. They were married on 12 July 1832.

4 In a letter to Mantell dated 5 September 1831, Robert Bakewell commented: “I was greatly rejoiced to see your hand lifted in the cause of the Deacles. a more violent outrage was scarcely ever committed & yet they were to be born down by the character of the Barings against direct evidence”, Mantell mss, ATL-NZ, Folder 5. There are several references in Mantell’s Private Journal during the period 1830-32 indicating that he was on friendly terms with a Mr Deacle who lived in the Lewes neighbourhood.
think from the weekly recruiting that it will grow in time into a good thing.

Believe me with kind remembrances to Mrs Mantell

ever most truly yrs

ChaLyell

Charles Lyell to G. A. Mantell

[ 1 December 1831 ]

My dear Mantell

I expected to have seen you yesterday at the R.S. or rather as I was not there but on duty at G.S. to have had you with us in the Ev. for we had a most interesting paper by Horner on the new Medit. Isle & Pantellaria a volc. isle.

I send by coach a few memoirs to Dr Morton in case you send to America & a letter which has been written to him for months at Somerset H. but we never had an opportunity to send it. I wish you could tell Silliman in a polite conciliatory manner that the Officers of the G.S. have tried both plans that of putting people to the charge of receiving letters of acknowledgment (for we cannot post pay foreign letters or we would willingly) & that of waiting (sometimes years) for opportunities of sending. The former plan has given such offence that several persons one within the last week have returned the letters begging to have no more to pay for. Of the two evils we are obliged to choose the least. Between ourselves the Americans are so peculiarly thin-skinned that I believe it w. be best to make them pay. We have hardly ever had a present from them without getting into a scrape even when we sent an answer in moderate time. But w. Dr M. have liked to pay many shillings for the empty form contained in the letters I now send you?

I assure you I do not think I could get Morton made F.G.S. You well know that a few years ago there was a sort of understanding that as in the early days of the G.S. the honour was conferred too easily, the number sh. be as much limited as possible. Buckland tried to get M. De Serres in & after the certificate was signed & suspended we decided in Council that 20 or more w. come before him. I would rather vote for Morton than for De S. but do not hold out prospects. The only one now proposed is the celebrated mineral. and geol. chemist, Miterlisch of Berlin & he is not to be put up till a 2. council has discussed his precedence. All the last day men have been carefully chosen. I really don’t know the respective merits of the American geol. & unless I was prepared to carry a case thro’, I w. not bring it on. Maclure & Silliman # I believe are our only American F.G.S.

I am very busy today having done nothing yesterday. The Duke I hear got on well & they have now a strong council & first rate papers sent to them.

with rememb. to Mrs Mantell believe me very truly yrs

ChaLyell

Dec. 1. 1831. London

# & Webster of whose merits I know nothing but these were before the reform.

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