

THE CORRESPONDENCE OF CHARLES DARWIN 1858–1859

From Hewett Cottrell Watson 3 January 1858

Thames Ditton | Kingston— Surrey. S.W.

Jan<sup>y</sup> 3. 1858

My dear Sir

It seems hardly worth while to trouble you with the remark drawn forth by your own,—that I do not recollect any definite opinion or statement, as a general view or real generalisation, that both varieties are more restricted in their areas, or have different areas from their (presumed) type species.—<sup>1</sup> A running notion seems to pervade botanical works to this effect. For instance, a botanist will argue that two forms are two distinct species, because they occur intermingled, & are thus proved not to be var? consequent on situation. Almost always, too, botanists treat var? as rarer than their alleged species or type forms. And here & there remarks are made, that such a form is a var? caused by difference of situation.

You seem to expect something from the concluding volume of Cybele,<sup>2</sup>—& will thus be disappointed. It will simply be like a block of stone, cut & fashioned in a particular manner, but by itself of little or no use;—yet adapted to constitute part of an edifice where other blocks are prepared in like manner, to be built up along with it. I can in some measure see or guess what ought to be done,—but am unable to do it, because the like materials do not elsewhere exist, for comparison & generalisation.

Very truly | Hewett C. Watson<sup>3</sup>

DAR 98: 19-20

CD ANNOTATIONS

2.1 You seem to expect . . . Watson 3.1] crossed ink

- <sup>1</sup> CD had consulted Watson on many occasions about botanical problems relating to his work on species (see *Correspondence* vols. 5 and 6). At the end of 1857, CD had asked Watson to comment on a list of species and varieties copied out from Watson and Syme 1853; Watson had found it difficult to supply precisely the information that CD requested (*Correspondence* vol. 6, letter from H. C. Watson, 20 December [1857]). CD evidently wrote again with questions about the ranges of varieties as compared with species.
- <sup>2</sup> The fourth volume of Watson 1847-59 was published in 1859. CD's copies of all four volumes, presented to him by Watson, are in the Darwin Library-CUL. Volume four is annotated by CD. See also letter to J. D. Hooker, [26 May 1859].
- 3 It is possible that Watson added a postscript to this letter. The rest of the page after the signature has been excised.



January 1858

To Jean Louis Armand de Quatrefages de Bréau<sup>1</sup> 4 January [1858?]<sup>2</sup>

Down Bromley Kent

Jan<sup>y</sup> 4<sup>th</sup>.—

Dear Sir

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I beg to thank you sincerely for your very kind note.— The information, which you hope to obtain from M. Flourens will be of the *greatest* value to me: should he forget, perhaps you will be so kind as to remind him.—<sup>3</sup> I have done myself the pleasure of sending you my Journal through Mess Williams & Norgate.—<sup>4</sup> My work on variation will not be published for some years; as I have much to observe, & am keeping for this purpose all the varieties of Pigeons, Poultry, Ducks &c.—With very cordial thanks & with much respect, I beg to remain | Yours truly obliged | Charles Darwin

American Philosophical Society (144)

- <sup>1</sup> The recipient is identified by the likelihood that CD would have sought an acquaintance to act as intermediary between himself and Marie Jean Pierre Flourens (see n. 2, below). CD had sent Quatrefages de Bréau a presentation copy of *Living Cirripedia* (1854) (see *Correspondence* vol. 5, letter to T. H. Huxley, 2 September [1854], n. 4). Both Quatrefages de Bréau and Flourens were professors at the Muséum d'histoire naturelle in Paris.
- <sup>2</sup> The year is suggested by CD's citation of Flourens's works in the chapters of *Natural selection* that were being composed at the time. CD referred to Flourens's most famous work on the instincts of animals (Flourens 1845) in his chapter on the mental powers and instincts of animals (*Natural selection*, pp. 473 and 477). The chapter was written during January and February 1858 and was finished on 9 March ('Journal'; Appendix II). An annotated copy of Flourens 1845 is in the Darwin Library-CUL.
- <sup>3</sup> A further work by Flourens, which included a discussion of the 'Fixité des formes de la vie ou des espèces' (Flourens 1855, pp. 130-57), was also cited by CD in an earlier chapter on hybridism (*Natural selection*, pp. 431, 432, 456). There is an annotated copy of Flourens 1855 in the Darwin Library-CUL. CD completed this chapter on 29 December 1856 (*Correspondence* vol. 6, Appendix II).
- <sup>4</sup> CD relied upon the booksellers Williams and Norgate to distribute copies of his works abroad. He refers to *Journal of researches* 2d ed.

## From Edward Blyth [8 January 1858]1

will cover she-Donkeys readily; but not so always the converse. The famous Ld Clive,<sup>2</sup> you will remember, had a Zebra mare which rejected the advances of a Jack-ass; when his ldship hit upon the notable expedient of painting the latter with Zebra-stripes, upon which the scruples of the lady Zebra were overcome! Well, suppose this Zebrified Jackass (or were it even otherwise harlequinized) had been put to a few Jenny Asses. Would the foals resulting from such intercourse exhibit an unusual amount of striping? The experiment might be tried also with mares, or even with bitches, Swine, &c. An affirmative result would certainly be



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most interesting, and be applicable too in procuring new varieties of colouring in various animals.—

Among a lot of Jungle-fowls I saw yesterday was a cock without the white cheek-lappet; as I think always with those from the eastern side of the Bay of Bengal; but this was a Bengal specimen. I bought this morning a cock & hen of the frizzled race of fowls. In D! Livingstone's work, you will find that he met with such in Africa, and fancied them to be the result of an effort of nature to adapt themselves to a hot climate! As if the fowl was not aboriginally an inhabitant of torrid climes? I should like you to see my article on 'British Birds in India' in the 'Calcutta Review': that on Indian Pigeons I will send you by Sir W. Wiseman. It may contain one or two suggestions for you to follow out— The former article was published some two or three Nos. back in our Calcutta Quarterly; and of course you will be able to see it at the India-house, Popular Po

As I write, a royal salute is firing in honour of the arrival of the glorious garrison of Lucknow, *i.e.* the wounded officers, & the ladies and children.8 How amazingly the force of character of our countrymen & countrywomen has been evinced in the course of this terrible struggle! The wonderful superiority of the European to the Asiatic, from the days of Xenophon and Alexander even unto now! Against such overwhelming odds, nobody here ever conceived the possibility of the insurrection proving successful,—this grand struggle of barbarism against a higher civilization ennobled by the application of all the sciences.

Ever Sincerely Yours, E Blyth-

Incomplete DAR 98: 144-5

### CD annotations

- 1.1 will cover . . . animals.— 1.10] crossed pencil
- 2.1 Among . . . Bengal; 2.3] double scored brown crayon
- 2.8 that on . . . Wiseman.] double scored brown crayon
- 2.9 The former article . . . Quarterly; 2.10] double scored brown crayon
- 2.10 and of course . . . elsewhere. 2.11] 'Letter dated Jan 1857'9 added pencil
- 3.1 As I write . . . sciences. 3.8] crossed pencil

Top of letter: 'Jan 8 1858' pencil; '15'10 brown crayon, circled brown crayon

- <sup>1</sup> The date is taken from CD's annotation. It is not known whether this was the date of receipt or whether CD copied Blyth's date from the missing portion of the letter.
- <sup>2</sup> Robert Clive was governor of Bengal, 1757-60.
- <sup>3</sup> Livingstone 1857, p. 407. CD read this work later in the year (see letter to J. D. Hooker, 31 March [1858]).
- <sup>4</sup> Blyth 1857a. CD cited this article in Natural selection, p. 311.
- <sup>5</sup> Blyth 1857b. A copy of the article is in the Darwin Pamphlet Collection-CUL.
- <sup>6</sup> William Saltonstall Wiseman was a captain in the British navy from 1854 to his retirement in 1870.
- <sup>7</sup> The headquarters of the East India Company in Leadenhall Street, London. The company remained in the premises after the government of India was handed over to the crown in 1858.



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Cambridge University Press 978-0-521-38564-0 — The Correspondence of Charles Darwin Charles Darwin , Edited by Frederick Burkhardt , Sydney Smith Excerpt More Information

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- <sup>8</sup> The siege of the British residency in Lucknow during the Indian mutiny was broken on 22 November 1857, although the city itself was not recaptured by British forces until March 1858 (Annual Register (1857 and 1858)). Blyth was writing from Calcutta, where he was employed as the curator of the museum of the Asiatic Society of Bengal.
- <sup>9</sup> This letter has not been found.
- 10 CD numbered Blyth's letters in order of receipt. See Correspondence vols. 5 and 6 for Blyth's previous letters to CD.

From John Innes 9 January [1858-9]1

Downe Jan 9<sup>th</sup>:

Dear Darwin,

Thanks for your note I will try to go to Bromley on the 25<sup>th</sup> to put M<sup>rs</sup>. Lettington in cash.<sup>2</sup> I met M<sup>r</sup> Lubbock today and mentioned our school question that he might think of it.<sup>3</sup> I have no doubt myself. We can talk it over some day—

I met with a record of pigeon flying yesterday which possibly you may not have---

10<sup>th</sup>. July 1830. 100 pigeons from Antwerp were flown in London. 18 prizes to be given. They started at 8.45 AM strong breeze from W.S.W.

Arrived at Antwerp 1<sup>st</sup> in  $5\frac{1}{2}$  hours  $2^{nd}$  30 seconds later. Six five minutes after the winner, and all 18 prizes gained within  $8\frac{1}{4}$  hours. 26 birds reached home within 20 hours. No record of the rest.<sup>4</sup>

Faithfully Yours | John Innes

DAR 205.2 (Letters)

CD annotations

0.1 Downe . . . some day— 1.3] crossed pencil

Top of first page: '18'5 brown crayon

Bottom of last page, pencil:

'London to Antwerp 195 British miles

'Merrie England by Lord. W. Lennox 1858 p. 185 .-- ' ink

<sup>&</sup>lt;sup>1</sup> The date is inferred from CD's interest in ascertaining the distances that birds might be able to fly. The point was relevant to his work on the distribution of plant seeds and animal ova and larvae by means of birds, a topic he investigated from the autumn of 1857 to 1859. The publication date of Lennox 1858 (see n. 4, below) indicates that the letter was written some time after 1857.



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- <sup>2</sup> Amy Lettington was the draper in Down village (*Post Office directory of the six home counties* 1859). CD was the treasurer of the Down Coal and Clothing Club, a society funded by charitable subscriptions from local gentry. The money thus acquired was used to buy coal and clothing for villagers. From an entry in the club subscription book (Down House MS) for the year 1844, it appears that it was possible for villagers to buy clothing on account at Mrs Lettington's shop and that she was subsequently reimbursed by CD, as treasurer. John Innes, the perpetual curate of Down, had previously been the treasurer of the club (*Correspondence* vol. 4, letter to John Innes, [8 May 1848]). He retained a close interest in its affairs (see J. R. Moore 1985, pp. 468-6).
- <sup>3</sup> John Lubbock. Innes and CD had been involved with plans to set up a national school in Down funded by John William Lubbock, John Lubbock's father (see *Correspondence* vol. 5, letters to J. W. Lubbock, 6 September [1853] and 11 October [1853]). The school was established in 1853.
- <sup>4</sup> A note made by CD (see CD annotations) indicates that Innes's information was taken from Lennox 1858, p. 185. The book was published early in December 1857 (*Publishers' Circular*, 15 December 1857, p. 580).
- <sup>5</sup> The number of CD's portfolio of notes on the means of dispersal of plants and animals.
- <sup>6</sup> CD's estimate that birds could fly at 35 miles per hour was included in Origin, p. 361.

To Joseph Dalton Hooker 12 January [1858]1

Down Bromley Kent Jan. 12<sup>th</sup>

My dear Hooker

I want to ask a question which will take you only few words to answer.— It bears on my former belief (& Asa Gray strongly expressed opinion) that Pipilionaceous flowers were fatal to my notion of there being no eternal hermaphrodites.—<sup>2</sup> First let me say how evidence goes: you will remember my facts going to show that Kidney Beans require visits of Bees to be fertilised. This has been positively stated to be case with Lathyrus grandiflorus, & has been very partially verified by me.—<sup>3</sup> Sir W. Macarthur tells me that Erythrina will hardly seed in Australia without petals are moved as if by Bee.—<sup>4</sup> I have just met statement that with common Bean, when the Humble-bees bite holes at base of flower & therefore cease visiting mouth of corolla "hardly a bean will set".

But now comes a much more curious statement that 1842-43 "since Bees were established at Wellington (N. Zealand), Clover seeds all over the Settlement, which it did not before". The writer evidently has no idea what the connexion can be.—5 Now I cannot help at once connecting this statement (& all the foregoing statements in some degree support each other, as all have been advanced without any sort of theory) with the remarkable absence of Papilionaceous plants in N. Zealand.—

I see in your list Clianthus, Carmichælia 4 species— A new genus, a shrub; & Edwardsia—(is latter Papilionaceous?)<sup>6</sup> Now what I want to know, is, whether any of these have flowers as small as clover; for if they have large flowers they may be visited by Humble-Bee, which I think I remember do exist in N. Zealand;<sup>7</sup> & which Humble Bees would not visit the smaller clovers.— Even the very minute little yellow Clover in England has every flower visited & revisited by Hive Bees,



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as I know by experience.—8 Would it not be a curious case of correlation if it could be shown to be probable that herbaceous & small Leguminosæ do not exist because **when seeds washed ashore**!!!9 no small Bees exist there. Though this latter fact must be ascertained! I may not prove anything, but does it not seem odd that so many quite independent facts, or rather statements should point all in one direction viz that Bees are necessary to the fertilisation of Papilionaceous flowers.

Ever yours | C. Darwin

My man is getting on with D. Candolle, but he has been unavoidably delayed a little.—<sup>10</sup> R. Brown's Prodromus N. Hollandiæ has so *very few* varieties, that I sh<sup>d</sup> not dare to trust result, whatever it might be.—<sup>11</sup>

Endorsement: '1858'<sup>12</sup> DAR 114.4: 220

- <sup>1</sup> Dated by the relationship to the letter from J. D. Hooker, 15 January 1858. See also n. 12, below.
- <sup>2</sup> CD had long held the belief that hermaphrodite organisms must occasionally cross-fertilise. In 1856 he had asked Thomas Henry Huxley whether there were any permanently self-fertilising invertebrates (*Correspondence* vol. 6, letters to T. H. Huxley, 1 July [1856] and 8 July [1856]) and had discussed the problem of the apparent self-fertilisation of papilionaccous flowers like peas and beans with both Hooker and Asa Gray. CD refers to the letter from Asa Gray, [August 1857] (*Correspondence* vol. 6).
- <sup>3</sup> CD wrote about these experiments in a letter to the *Gardeners' Chronicle*, published under the heading 'Bees and fertilisation of kidney beans' on 24 October 1857 (*Correspondence* vol. 6, letter to *Gardeners' Chronicle*, 18 October [1857]).
- <sup>4</sup> CD had met William Macarthur, a member of the legislative council of New South Wales, in 1857 (see *Correspondence* vol. 6, letters to Syms Covington, 22 February 1857, and to Asa Gray, [after 15 March 1857]). *Erythrina* is a papilionaceous tropical shrub.
- <sup>5</sup> CD refers to an account published in the Gardeners' Chronicle and Agricultural Gazette, 16 December 1843, p. 881, which included a quotation from a notice in the New Zealand Journal.
- <sup>6</sup> CD refers to Hooker's Flora Novæ-Zelandiæ (Hooker 1853-5, 1: 49-50).
- <sup>7</sup> CD had visited New Zealand during the Beagle voyage in December 1835 (Correspondence vol. 1).
- <sup>8</sup> CD mentioned this fact in Natural selection, p. 68.
- <sup>9</sup> CD emphasised the words 'when seeds washed ashore' because he and Hooker had a long-standing disagreement about the possibility of seeds retaining the power to germinate after periods of immersion in salt-water. Hooker was sure that such accidental and occasional means of transport could not account for the colonisation of land by new plants, even though CD had conducted numerous experiments to confirm the possibility of such transport (see Correspondence vols. 5 and 6).
- A reference to Ebenezer Norman, the master of the national school in Down village, who acted as CD's copyist. In 1856 and 1857, Norman compiled lists of species from botanical catalogues for CD's statistical researches into the incidence of varieties. Norman was at this time compiling lists of large and small genera from Candolle and Candolle 1824-73, several volumes of which CD had borrowed from Hooker in 1857 (see Correspondence vol. 6). CD's calculations and lists are in DAR 15.2, 16.1, and 16.2. For CD's statistical work, see Browne 1983, pp. 204-6.
- 11 Brown 1810.
- 12 Altered from '1857'. Many, if not all, of the dates added by Hooker to CD's letters were supplied after CD's death when Hooker helped Francis Darwin edit his father's correspondence for publication. Although they are not strictly endorsements, Hooker's dates have been included as such when they support dates obtained from other sources.



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To William Darwin Fox 14 January [1858]1

Down Bromley Kent Jan. 14<sup>th</sup>

My dear Fox

Have you Hewitsons work on Eggs, in which you gave some observations on variations of Birds' nests? If you have could you dare send it per post well done up & allow me to pay postage; for I do not know how else I c<sup>d</sup> get to see it.—

Have you ever heard that the *first* year that Birds build, they are not quite so adroit— LeRoy states this to be so, but I can hardly believe him.<sup>3</sup>

Can you give me any thoroughily well authenticated facts on ever so little variations in nests; I do not mean such cases as the Water owzel habitually having a doomed or open nest—or difference of Sparrow's nest in tree & in hole; but rather any *slight* difference in degree of perfection of nest of same species in different districts or of any individuals of same species.—<sup>4</sup>

The smallest charity in this line would be gratefully accepted.— Ever yours | In Haste | C. Darwin

Endorsement: 'Jan 14 58' Christ's College Library, Cambridge (Fox 108)

From J. D. Hooker 15 January 1858

Friday Jany 15/581

My dear Darwin

The Leguminous affair is extremely curious,<sup>2</sup> I am quite gone over to your side in the matter of eternal hybrids & hermaph. *Carmichælia* & Clianthus have closed flowers, & hence probably require artificial hybridization but *Edwardsia* has exserted genitalia, & should not be parallel case With regard to the Wellington Clover case, it really looks too good—my impression is that Wellington was hardly a colony before 1842, & that there could not be sufficient clover cultivation there before that to warrant any conclusions, but I may be wrong—<sup>3</sup> At any rate I should like some definite details of the state & extent of Clover-crops before 1842, say in 1839–40—I will show your letter to Sinclair, who will be here tomorrow.<sup>4</sup>

None of the New Zealand Legumes have flowers quite as small as Clover, though those of Carmichælia & of *Notospartium* are very small. Is it not dangerous to assume that Humble bees would not visit small flowers in New Zealand, because they do not in England— In England I fancy the more numerous &

<sup>&</sup>lt;sup>1</sup> The letter has the year '1858' added to the date, but it is not clear whether this is in CD's hand. The endorsement by Fox confirms that the letter was written in 1858.

<sup>&</sup>lt;sup>2</sup> Hewitson 1831-44. See letter to W. D. Fox, 31 January [1858].

<sup>&</sup>lt;sup>3</sup> Leroy 1802, pp. 104-5. CD cited this work on several occasions in chapter 10 of his species book, on the 'Mental powers and instincts of animals', but did not give this particular example.

<sup>&</sup>lt;sup>4</sup> See letter to W. D. Fox, 31 January [1858]. Fox had long been interested in nidification (see Correspondence vol. 1, letter from W. D. Fox, 30 June 1832).



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active hive-bee forestalls the Humble bee in the matter of small flowers—if indeed the Humble bees do not visit the latter— They surely visit Heather-flowers in Scotland?

It would indeed be curious if a relation could be traced between no bees & no small fld. Leguminosæ—but you must remember the strange absence of small Leguminosæ in Fuegia, Falklands, & the Pacific Islands generally. The question hence becomes a very involved one, & forms part of a larger one, viz is there any relation between the Geog. distrib. of bees & of Leguminosæ.

(section missing)<sup>5</sup> forms & should never have dreamed of establishing two varieties on the 20 specimens, but simply regarded the plant as variable.

Are you coming up next week— we hope the Sulivans<sup>6</sup> are coming & take a quiet pot-luck with us on *Tuesday* at 6 when Sinclair will be here & Lindley—<sup>7</sup> Can you not come if to be in Town?

Henslow will be here on the following week.<sup>8</sup> (Jos D Hooker)

AL incomplete DAR 100: 120-1

#### CD ANNOTATIONS

- 1.1 The Leguminous . . . artificial hybridization, 1.3] crossed pencil
- 1.3 but Edwardsia] 'Edwardsia' square bracket added before, pencil
- 2.1 None of the . . . very small. 2.2] double scored pencil
- 4.1 forms & . . . \(\sqrt{Jos D Hooker}\) 7.1] crossed pencil

Top of first page: '1843' pencil, del brown crayon; 'Dichogam-' brown crayon

- <sup>1</sup> Hooker first wrote the date as '57' then altered it to '58'.
- <sup>2</sup> See letter to J. D. Hooker, 12 January [1858].
- <sup>3</sup> Hooker had spent three months in New Zealand in 1841, during the time he served as assistant surgeon on James Clark Ross's Antarctic voyage (1839-43).
- <sup>4</sup> Andrew Sinclair, colonial secretary in New Zealand, 1844-56, had spent some weeks collecting plants with Hooker during Hooker's stay in New Zealand (see n. 3, above). Sinclair returned to England in 1856.
- <sup>5</sup> The missing section has been cut out, presumably by CD, and has not been located. The rest of the letter was written on the verso of the remaining page. Part of Hooker's signature remains at the end of the letter.
- <sup>6</sup> Bartholomew James Sulivan, who had served as lieutenant in the *Beagle*, remained a good friend of CD's. After the Crimean War, he was appointed to the marine department of the Board of Trade.
- <sup>7</sup> John Lindley was a close friend of the Hooker family.
- <sup>8</sup> John Stevens Henslow, Hooker's father-in-law, had been CD's mentor while CD was an undergraduate at Cambridge and continued to be a warm friend and correspondent from that time.

### To J. D. Hooker 15 January [1858]1

Down Bromley Kent Jan. 15<sup>th</sup>

My dear Hooker

My note on papilionaceous flowers crossed yours on the road; & for it I am much obliged for it told me a good deal of news. Though that about Henslow I am



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truly grieved to hear; I had thought his heart had got quite right again.—<sup>2</sup> I saw the death of Miss Jenyns in the paper.—<sup>3</sup>

I enclose some queries for  $D^{r,4}$  but I suppose he will think them too troublesome & trifling to be attended to.

I do not see that the musk ox, of which remains have been found in Siberia, is any great difficulty for I have never for one second doubted the possibility, nay probability of such slight changes as the union of the shallow Behring's Straits.—<sup>5</sup> Your Indian Mysore & Carnatic plants in tropical Australia seems to me a more curious case.<sup>6</sup>

I am very doubtful whether I shall be up for Club;<sup>7</sup> owing to Boys holidays drawing to a close, & sickness in our house. My wife often ails, & Lenny has very frequent bad days with badly intermittent pulse.—<sup>8</sup> We escaped a considerable anxiety in George having apparently a regular low fever, but it died away & has spoiled only a fortnight of his holidays.<sup>9</sup> Oh health, health, you are my daily & nightly bug-bear & stop all enjoyment in life. Etty keeps very weak.—<sup>10</sup> But I really beg pardon, it is very foolish & weak to howl this way. Everyone has got his heavy burthen in this world.—

I sh<sup>d</sup> like to come up; if it were only just to see you & Lyell, who must be brimming full of geological news.<sup>11</sup>

Farewell | My dear Hooker | Yours affecy | C. Darwin

P.S. | I have just got your letter for which thanks. The Clover case was published in the "New Zealand Journal" date not given but republished in Gardeners Chronicle Dec. 16. 1843.—<sup>12</sup>

Humble-bees, I believe, are mundane in their distribution; but I do not know how it is in small islands. Bees are more confined in their visits to particular flowers, than you seem to be aware.— I daresay the Clover case may break down, & I sh! not have thought about it, had not so many facts, all vague, all pointed in same direction.

I cannot come up so soon as Tuesday, for we have relations in House:13 I doubt much whether I shall be up for Thursday

Farewell

Endorsement: '1858' DAR 114.4: 221

<sup>1</sup> The endorsement is confirmed by the relationship to the preceding letter.

<sup>2</sup> There must have been news of John Stevens Henslow's poor health in the missing part of the preceding letter. He was 62 years old.

<sup>3</sup> The death of Jemima Maria Hicks Jenyns, aged 29, was announced in *The Times*, 12 January 1858, p. 1. She was Henslow's niece and Frances Harriet Hooker's cousin.

<sup>4</sup> CD apparently forgot to add the name or initial when he started a new page of his letter. From the context, it seems probable that he intended to refer to Andrew Sinclair (see preceding letter). Sinclair had been a naval surgeon before entering the colonial service.

<sup>5</sup> CD refers to the hypothesis that land-bridges existed between continents in former geological periods. He had long felt that naturalists should not invoke land-bridges to explain the geographical distribution of plants and animals without first considering the different ways that organisms might have been transported over the intervening sea. However, as he states in this letter, he did not doubt



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that in a few cases, such as the Behring Straits, land-bridges might previously have existed. Hooker, on the other hand, believed that sea transportation between land masses was too infrequent and accidental to be the main means of dispersal (Hooker 1853-5, 1: xx-xxvii). CD and Hooker had discussed the point at length (see *Correspondence* vol. 6, especially letters to J. D. Hooker, 19 July [1856] and 30 July [1856], and letter from J. D. Hooker, 4 August 1856).

<sup>6</sup> See Correspondence vol. 6, letter from J. D. Hooker, 9 November 1856.

<sup>7</sup> The Philosophical Club of the Royal Society, of which both CD and Hooker were members, met monthly. A meeting was held on 21 January 1858 (Bonney 1919, p. 137).

<sup>8</sup> Leonard Darwin, who had just turned 8, had experienced a breakdown in his health in 1857 (see Correspondence vol. 6, letter to J. D. Hooker, 30 September [1857], and n. 13). Emma Darwin recorded Leonard's fluctuating ill health in several entries in her diary in February and March 1858.

<sup>9</sup> George Howard Darwin, aged 13, was attending Clapham Grammar School. Emma Darwin recorded in her diary that 'G. went to school' on 1 February 1858.

10 Henrietta Emma Darwin, aged 15, had suffered poor health throughout much of the previous year. The Darwins had sent her to Edward Wickstead Lane's hydropathic establishment in Moor Park, Surrey, for several weeks on two separate occasions in 1857 (see Correspondence vol. 6).

11 Charles and Mary Elizabeth Lyell had travelled in Switzerland and Italy from August to December 1857, during which time Lyell had geologised extensively. After his return, he reported in January 1858: 'My tour was unusually profitable, first in the glaciers and then the volcanos.' (K. M. Lyell ed. 1881, 2: 279).

<sup>12</sup> See letter to J. D. Hooker, 12 January [1858] and n. 5.

<sup>13</sup> Emma Darwin's brother Josiah Wedgwood III and his wife Caroline, CD's sister, arrived with their family at Down on 15 January 1858 (Emma Darwin's diary).

To William Bernhard Tegetmeier 17 January [1858]1

Down Bromley Kent Jan. 17<sup>th</sup>

My dear Sir

I have just received from Hon<sup>ble</sup> Walter Elliot a few fowls from Burma,<sup>2</sup> & I sh<sup>d</sup> like you to see them. Will you let me have a line to say where I shall send them. They are in small not heavy Box about 2 ft by 1 & 1 deep.—

In Haste Yours very sincerely | C. Darwin

New York Botanical Garden Library (Charles Finney Cox collection)

<sup>1</sup> Although the letter was endorsed '1857', presumably by Tegetmeier, it seems from the relationship to the letter to W. B. Tegetmeier, 14 April [1858], that this was a mistake.

<sup>2</sup> CD had asked Walter Elliot, a member of the council of the governor of Madras, to send him skins of domestic pigeons and poultry in 1856 (Correspondence vol. 6, letter to Walter Elliot, 23 January 1856). CD received one consignment that year and another in 1857 (ibid. vol. 6, letters to W. B. Tegetmeier, 3 November [1856] and to J. D. Hooker, 22 August [1857]).

To John Stevens Henslow 25 January [1858]

Down Bromley Kent Jan<sup>y</sup> 25<sup>th</sup>

My dear Henslow

I received the day before yesterday the appendix to the allotment Report & I am glad to see how eminently successful your men have been.—1 I have not