

Correspondence Project

Excerpt

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THE CORRESPONDENCE OF CHARLES DARWIN
1878

To Francis Darwin [1878?]¹

This has just been sent to me.—& I shall be curious hereafter to read it; but I thought that you w^d like to see it at once²

C D

Sunday

DAR 211: 21

¹ The year is conjectured from an archivist's note.

² The item has not been identified.

From Ellen Harrison to Emma Darwin [January 1878]¹

I think children in the house keep us elderly ones much more youthful than we should be with out them. I used to find that very much with my dear boy Lawford, only they *will* grow up so fast. The other day he was digging tunnels with his wooden spade in the sand and now he is engineering in Ceylon, and writes to me about assisting at an operation on a poor elephant's foot, where his part was sitting on the animal's head whose tears were running down his cheeks!²

John³ has not been very well lately, but is better again now.

Will you remember us both most kindly to D^r Darwin and believe me dear Emma
always | Your affectionate friend | Ellen Harrison

Incomplete

DAR 166: 108

CD ANNOTATIONS

1.1 I think ... in the sand 1.4] *crossed pencil*

Top of first page: 'Expression | Jan 1878' *pencil*

¹ The date is established by CD's annotation.

² Lawford Maclean Acland was Harrison's nephew. Harrison had probably been commenting on the Darwins' grandson, Bernard Darwin, who lived with the Darwins. CD had discussed elephants' tears in *Expression*, pp. 167–8 and n. 20. The information in this letter was not added to *Expression* 2d ed., edited by Francis Darwin.

³ John Harrison was Ellen's husband.

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January 1878

To Édouard Heckel 1 January 1878

Down, | Beckenham, Kent. | Railway Station | Orpington. S.E.R.

Jan. 1st/78

Dear Sir

I thank you sincerely for your very kind note & good wishes. I am much pleased to hear that you are translating my last book.— I fully agree that you had better always use the scientific terms for what we call the Primrose & Cowslip.— With respect to the Oxlip, I sh^d think it would be best to refer to it as the hybrid *P. veris-vulgar*. The so-called Bardfield Oxlip, which is rare in England, must of course be called *P. elatior* Jacq.¹

I wish you well through your labours & with congratulations on the new year, remain, with much respect. | Yours very faithfully | Ch. Darwin

Two *bad* erratap. 162 9 lines from top for “**mid-length** stamens”, read “**shortest**”p. 205 5 lines from bottom for “own-form **shortest** stamens” read “own-form **mid-length** stamens”.²

Barbara and Robert Pincus (private collection)

¹ Heckel's letter has not been found. He was translating *Forms of flowers* into French (Heckel trans. 1878). Heckel tended to use the Linnean binomials for *Primula* species, but he also translated cowslip (*Primula veris*) as *coucou* or *pain de coucou*, primroses and cowslips as *primevère* (French does not distinguish them under this term), and primroses (*P. vulgaris*) as *primevère commun*. He translated oxlip as *primevère des jardins* and Bardfield oxlip as *primevère de Bardfield* and *primevère élevée*. (See Heckel trans. 1878, chapters 1 and 2.)

² The corrections were made in Heckel trans. 1878, pp. 167 and 211.

To Raphael Meldola 1 January [1878]¹

From Mr. C. Darwin, Down, Beckenham.

In the Dec^r no^r of *Kosmos* short article (good) by F. Müller supporting by new facts Weismann's views with respect to Caterpillars.² If you care to see it, I would send it by Post.— Can you return to me the no^r of *Kosmos* sent to you on Oct. 22^d?³

C. D.

Jan. 1st—

ApcS

Oxford University Museum of Natural History (Hope Entomological Collections 1350: Hope/Westwood Archive, Darwin folder)

¹ The year is established by the relationship between this letter and the letter to Raphael Meldola, 22 October [1877] (*Correspondence* vol. 25).

² The article was the third part of Fritz Müller's 'Beobachtungen an brasilianischen Schmetterlingen' (Observations on Brazilian butterflies; F. Müller 1877a); it mentioned August Weismann's views on the adaptation of caterpillars to their environment. CD's copy of this issue of *Kosmos* is in the collection of unbound journals in the Darwin Archive-CUL; the article is lightly annotated.

³ See *Correspondence* vol. 25, letter to Raphael Meldola, 22 October [1877].

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January 1878

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To Hermann Müller 1 January [1878]¹Down,
Jan. 1.

My dear Sir

I must write two or three lines to thank you cordially for your very handsome and very interesting Review of my last book in *Kosmos*, which I have this minute finished.² It is wonderful how you have picked out everything important in it. I am especially glad that you have called attention to the parallelism between illegitimate offspring of heterostyled plants and hybrids. Your previous article in *Kosmos* seemed to me very important, but for some unknown reason the German was very difficult, and I was sadly over-worked at the time, so that I could not understand a good deal of it.³ But I have put it on one side and when I have to prepare a new Edit. of my book, I must make it out.—⁴ It seems that you attribute such cases as that of dioecious *Rhamnus* and your own of *Valeriana* to the existence of two forms with larger and smaller flowers.⁵ I cannot follow the steps by which such plants have been rendered dioecious, but when I read your article with more care I hope I shall understand. If you have succeeded in explaining this class of cases I shall heartily rejoice, for they utterly perplexed me and I could not conjecture what their meaning was. It is a grievous evil to have no faculty for new languages.

With the most sincere respect and hearty good wishes to you and all your family for the new year, believe me, | Yours very sincerely | Ch. Darwin

What interesting papers your wonderful brother⁶ has lately been writing.

Copy

DAR 146: 438

¹ The year is established by the reference to Müller's review of *Forms of flowers* (see n. 2, below).

² Müller reviewed *Forms of flowers* in the December 1877 issue of *Kosmos* (H. Müller 1877b). CD's annotated copy is in the unbound journal collection in the Darwin Archive-CUL.

³ CD's annotated copy of Müller's article 'Das Variiren der Größe gefärbter Blütenhüllen und seine Wirkung auf die Naturzüchtung der Blumen' (Variation in the size of coloured perianths and its effect on the natural selection of flowers; H. Müller 1877a) is in the unbound journal collection in the Darwin Archive-CUL.

⁴ CD cited H. Müller 1877a in *Forms of flowers* 2d ed., p. viii.

⁵ In an annotation to H. Müller 1877b, p. 290, CD wrote, 'He accounts for one class of Dioicous plants by the flowers being of different sizes—see his former paper in *Kosmos*.' In *Forms of flowers* 2d ed., p. viii, CD wrote that in H. Müller 1877a, p. 130, Müller showed that *Valeriana dioica* existed under four forms closely allied to the four presented by *Rhamnus*. (*Valeriana dioica* is marsh valerian; *Rhamnus* is the genus of buckthorns.) In H. Müller 1877a, pp. 131–2, Müller argued that homogamous flowers with large, colourful corollas became insect-pollinated while small inconspicuous ones became self-fertilised when insects did not visit the former first. However, if the large, colourful flowers were visited first, they eventually became staminate while the small ones become pistillate. In *Valeriana dioica*, he argued, the process was not complete so four forms were present. H. Müller 1877a discussed the development of insect-aided pollination from pollination by wind, and only secondarily mentioned the origins of gynodioecism. Müller also discussed the origins of gynodioecism in H. Müller 1873.

⁶ CD particularly admired Fritz Müller's recent paper on butterflies (F. Müller 1877a). See also letter to Raphael Meldola, 1 January [1878].

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January 1878

From Raphael Meldola 2 January [1878]¹*Entomological Society* | London | 21 John Street, | Bedford Row, | London W.C.
Jan. 2/77

My dear Sir,

I should very much like to see Fritz Müller's article in *Kosmos* of Dec. if you will kindly send it to me by post. I returned the No. you were good enough to send me on Oct. 22nd a few days after you sent it. I hope it has not been lost in the post. A letter accompanied it.² If you cannot find it please inform me what No. it was & I will take immediate steps to replace it.

I have not yet succeeded in finding a publisher for Weismann's essays— Van Voorst & Murray are both afraid to touch it & my time has been so much occupied that I have not had leisure to push enquiries in other directions.³

The entomological notes which I submitted to you some time since will appear with some additions in the Feb. No. of the "Ann. & Mag. of Nat. Hist."⁴

I beg to direct your attention to the forthcoming Part IV of the "Trans. Ent. Soc." The "Proceedings" bound up with it contain a great deal of matter relating to stridulation & is important with reference to your discussion of this phenomenon in the "Descent of Man". I have been talking over the subject with Wood-Mason this evening & he is anxious to submit to your consideration certain views of the subject which he has broached in his paper on *Mygale stridulans* (a copy of which he will send you).⁵

I am anxious to get recruits for the ranks of the Entom. Soc.⁶ & should be glad to see your son Mr. Francis Darwin in our list of Members. Would he do me the favour of allowing me to propose him at the next meeting Jan. 16th?

Yours very faithfully, | R. Meldola.

Wishing you the compliments of the season.

DAR 171: 121

¹ The year is established by the relationship between this letter and the letter to Raphael Meldola, 1 January [1878]. Meldola dated it 1877 in error.

² See letter to Raphael Meldola, 1 January [1878] and n. 2. The October 1877 issue of *Kosmos* contained the first part of Müller's article 'Beobachtungen an brasilianischen Schmetterlingen' (Observations on Brazilian butterflies; F. Müller 1877a). The letter that Meldola sent when he returned it has not been found. CD's annotated copy of the issue is in the collection of unbound journals in the Darwin Archive-CUL.

³ Meldola proposed a translation of August Weismann's *Studien zur Descendenz-Theorie* (Weismann 1875a and 1876) in his letter to CD of 20 October [1877] (*Correspondence* vol. 25). The translation was published in 1882 by Sampson, Low, Marston, Searle, & Rivington as *Studies in the theory of descent* (Weismann 1882). John Murray was CD's publisher; John van Voorst was a well-known natural history publisher.

⁴ Meldola 1878. Meldola had previously discussed with CD the publication of these notes from a letter by Fritz Müller; see *Correspondence* vol. 25, letter from Raphael Meldola, 13 September 1877.

⁵ James Wood-Mason's note on stridulation in *Mygale stridulans* (Wood-Mason 1877) appeared in the December 1877 issue of *Transactions of the Entomological Society of London*; the *Proceedings* in the same issue contain remarks on stridulation in other insects and scorpions (pp. xvi, xviii–xix, and xxvii–xxix). *Mygale stridulans* is a synonym of *Chilobrachys stridulans*, a spider in the family Theraphosidae (tarantulas). CD discussed stridulation in spiders and insects extensively in *Descent*.

⁶ Meldola was one of the secretaries of the Entomological Society of London.

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To ? 2 January 1878

Down, | Beckenham, Kent. | Railway Station | Orpington. S.E.R.

Jan 2. 1878

Dear Sir,

I am much obliged for your note & the specimen. The facts are new to me, & will be of use whenever I have to bring out a new edit of my 'Forms of Flowers'¹

Dear Sir | Yours faithfully | Ch. Darwin

LS (photocopy)

DAR 249: 126

¹ *Forms of flowers* was published in July 1877 (*Correspondence* vol. 25, Appendix II). The second edition was published in 1880. The correspondent, note, and specimen have not been identified.

To F. J. Cohn 3 January 1878

Down, | Beckenham, Kent.

Jan 3. 1878.

My dear Sir:

I thank you sincerely for your most kind letter & I return your wishes for the new year with all my heart.¹ Your letter has interested me greatly. D^r Sanderson showed me some admirable photographs on glass by D^r Koch of the organisms which cause splenic fever; but your letter & the valuable work which you have kindly given me make the case much clearer to me.² I well remember saying to myself, between 20 & 30 years ago, that if ever the origin of any infectious disease could be proved, it would be the greatest triumph to science; & now I rejoice to have seen this triumph.

With respect to the filaments of *Dipsacus*, I do not for a minute put my judgement on a par with yours or that of de Bary, but my son has lately made some observations which incline me very strongly to believe that the filaments consist of living matter of the nature of protoplasm³ Hearing from D^r Sanderson that thymol has a fatal effect on low organisms, he tried solutions of $\frac{1}{10}\%$ & $\frac{1}{20}\%$ both of which cause contraction of the filaments. On the other hand $\frac{1}{2}\%$ solution of carbolic acid does not cause contraction, 1% does so, this agrees with several observers who find, I believe, that $\frac{1}{2}\%$ carbolic solution is not poisonous to microzymes. My son finds that strong solutions of NaCl cause contraction but not death, as the filaments recover themselves in water, & do not swell up into bladders as they do after poisons; this agrees with H. de Vries' work on the 'plasmolysis' of cells—⁴

With cordial thanks & much respect | I remain, my dear Sir | Yours sincerely | Charles Darwin

LS

Joseph R. Sakmyster, ADS Autographs (dealer) (no date)

¹ See *Correspondence* vol. 25, letter from F. J. Cohn, 31 December 1877.

² Cohn had sent CD the third and last issue of the second volume of *Beiträge zur Biologie der Pflanzen* (Contributions to the biology of plants), a journal that he edited. It contained an article by Robert Koch, 'Verfahren zur Untersuchung, zum Conserviren und Photographiren der Bacterien' (Method

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for examining, preserving and photographing bacteria; Koch 1877). It is not known when John Scott Burdon Sanderson showed CD Koch's photographs; he had met Koch in Germany and assisted with an experiment in October 1877 (*Correspondence* vol. 25, letter from F. J. Cohn, 31 December 1877), and he reproduced figures from some of Koch's photographs in his 'Lectures on the infective processes of disease' (Burdon Sanderson 1877–8; for the figures, see *British Medical Journal*, 9 February 1878, p. 181). Splenic or splenic fever is now known as anthrax.

³ In his letter of 31 December 1877, Cohn had critiqued Francis Darwin's paper 'On the protrusion of protoplasmic filaments from the glandular hairs on the leaves of the common teasel (*Dipsacus sylvestris*)' (F. Darwin 1877b), mentioning apparently similar phenomena observed by Anton de Bary in *Agaricus* (a genus of mushrooms).

⁴ Francis Darwin published the results of his experiments on *Amanita agaricus* (fly agaric) and *Dipsacus sylvestris* (common teasel) in F. Darwin 1878b; he concluded that the effect of salt and acid solutions on the filaments suggested that the filaments contained living matter, and that their contraction was not merely mechanical. He cited Hugo de Vries's work on the mechanical expansion and contraction of cells (Vries 1877a and 1877b). See Vries 1877a, p. 4, for his use of the term plasmolysis for the shrinking of protoplasm from the cell wall. Microzyme: bacterium. NaCl: sodium chloride.

From E. A. Greaves 3 January 1878

14 Pittville Parade, | Cheltenham

Jan^y. 3rd. 1878

Dear Sir,

Thanks to Parker's dilatoriness the Picture had not been forwarded¹ I sent off to M: Myers² with the corrected address, and also called this morning upon M: P: I trust, the Portrait will arrive safely, it goes from me uninjured, & the more I examine it, I think that it will adorn either your own or your relations dining-room—

If it could speak, it would tell of its own travels and interesting history, 1st at Ashborne, then over the chimney piece at Derby in Uncle Hadley's dining-room afterwards in several migrations to residences with my esteemed & loved Aunt Hadley & more strange still to myself, and last to those who will value it for its ancestral worth—³ Glad as I am to see it so safely housed, I feel a little pang when I say farewell to the dear old painting— I received y^r. handsome acknowledgment for it, but never was such a thing heard of as payment before the article received it is most kind & benevolent of you.⁴

I shall be glad to hear that Parker has duly attended to all directions—

At your leisure I shall be glad to learn your opinion of the painting. Wrights are I believe considered valuable, tho' in his life-time he did not receive the commendation he ought to have done.

I send you another copy of my friend's; I have another so pray accept it—⁵

Receive my best wishes for the New-Year & I hope that you may be spared many more to look on your justly famed ancestor— | I am dear Sir, | Yours truly, & obliged, | Elizth. A. Greaves

P.S. Parker's men have just been for the Picture; and it will be sent off tomorrow morning, so that I trust you will receive it in the Eveng. in the same condition it went from here: I laid down very strict injunctions—& they will be answerable for any damage—

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DAR 210.14: 12

- ¹ Greaves had arranged to sell CD a portrait of his grandfather Erasmus Darwin by Joseph Wright of Derby (see *Correspondence* vol. 25, letter from E. A. Greaves, 14 December 1877). The portrait is reproduced on p. 254. Parker may have been George Parker of Cheltenham, a ‘commission agent, auctioneer, appraiser & accountant, house and estate agent, dealer in coins &c.’, who also offered to warehouse ‘goods of all descriptions ... in dry rooms’ (*Post Office directory of Gloucestershire, with Bath, Bristol, Herefordshire, and Shropshire* 1879).
- ² Probably Frederic William Henry Myers or his brother Arthur Thomas Myers (see *Correspondence* vol. 25, letter from E. A. Greaves to Francis Darwin, 31 December 1877).
- ³ The portrait had belonged to Susanna Hadley, an illegitimate daughter of Erasmus Darwin. Susanna had been in charge of a girls’ school at Ashbourne, near Derby, from 1784 until her marriage in 1809 to Henry Hadley, Greaves’s uncle.
- ⁴ CD recorded a payment of £50 to Greaves on 2 January 1878 in his Account books—banking account (Down House MS).
- ⁵ Greaves sent an unidentified pamphlet (see *Correspondence* vol. 25, letter from E. A. Greaves, 14 December 1877).

To Raphael Meldola 3 January 1878

Down, | Beckenham, Kent. | Railway Station | Orpington. S.E.R.

Jan 3. 1878

My dear Sir,

I have many apologies to make, for I have just found the missing number of *Kosmos*. I dispatch by this mornings post the December number. I will before long read the discussion on stridulation to which you refer.¹

As my son Francis does not attend at all to entomology but devotes all his time to plant physiology, it would be hardly worth his while to belong to yr society—which has my best wishes for its success.²

Dear Sir | Yours faithfully | Ch. Darwin

LS

Oxford University Museum of Natural History (Hope Entomological Collections 1350: Hope/Westwood Archive, Darwin folder)

- ¹ See letter to Raphael Meldola, 1 January [1878]. CD had asked Meldola to return the October 1877 issue of *Kosmos*, and offered to send him the December 1877 issue. In his letter to CD of 2 January [1878], Meldola had recommended a discussion of stridulation in the *Transactions of the Entomological Society of London*.
- ² Meldola had invited Francis Darwin to become a member of the Entomological Society of London (see letter from Raphael Meldola, 2 January [1878]).

From William Farrer 4 January 1878

Edgend | nr Burnley¹

Jany 4. 1878

Sir,

The enclosed is a leaf of the Australasian Newspaper: it contains an account of the origin of a new variety of the Merino sheep, which has lately appeared in Victoria.² As I had lately read with very great pleasure your ‘Variation of Animals &

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Plants under domestication' when this appeared, and as there seemed to be circumstances connected with this breed of sheep, which would be likely to interest you, I saved this leaf for the purpose of sending to you: and as I have brought it with me to England, I take this opportunity of sending it, in case you have not already seen it.³

I am not personally acquainted with M^r. Currie: but from what I have heard of him from hearsay, I have no doubt that he would answer with pleasure & intelligence any enquiries you might desire to make from him. His address is

J.L. Currie, Larra, Skipton, Victoria

Your book—*The Variation of Animals &c*—caused me to feel great interest in Nathusius' works.⁴ From the way in which you speak of them, I am led to expect that they may contain good expositions of valuable principles connected with the 'Science of Breeding'. This is a study that I have been trying to make my own for several years (although I am not pecuniarily interested in Stock.) I therefore, take the liberty of encroaching on your knowledge & kindness, and will ask you to be so kind as to jot down for me the names of a few books—English & Foreign & especially Nathusius'—which treat in a satisfactory way of this subject.

This subject is one, that is of great importance in a Stock-raising country like Australia, and I entertain a hope of being able at some future time to organize a club of kindred spirits, & getting some of the best foreign works on this subject translated.

Any list, therefore, that you may be kind enough to prepare for me will be regarded as of great value; and I shall endeavour to take back with me to Australia copies of the works it contains.

I am, dr Sir, | Faithfully yours | William Farrer.

DAR 164: 106

¹ Edgend was a house in Little Marsden, three miles north-east of Burnley in Lancashire. In 1878, it belonged to Farrer's cousin, Edward Ecroyd (*Post Office directory of Lancashire, Liverpool and Manchester* 1873 and 1881).

² The cutting has not been found in the Darwin Archive–CUL, but an article about John Lang Currie's success in breeding a merino with longer, silkier wool than usual appeared in the *Australasian*, 9 June 1877, p. 25. Farrer was visiting England from Australia after a horse-riding accident (A. Russell 1949, p. 26).

³ CD discussed the varying fleece quality of merino sheep in *Variation* 2d ed. 2: 102–5, mentioning the Mauchamp merino, another type of merino with an exceptionally silky fleece.

⁴ CD frequently cited Hermann Engelhard von Nathusius, a German livestock breeder, in *Variation*.

To Karl von Scherzer?¹ 4 January 1878

Down, | Beckenham, Kent. | Railway Station | Orpington. S.E.R.

Jan 4. 1878

My dear Sir,

I shall be in London on the 16th, 17th or 18th, & shall stay there for a week.² If would suit His Royal Highness, I would wait upon him after the above date at any day & hour he might please to appoint through you; but the morning is the best time for my health.³ This plan I presume would be much the most convenient for the Prince,

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But if he should prefer to come here I would suggest his honouring me by coming to luncheon. I am ashamed to say that I can speak no language except English, & unless the Prince can speak English I earnestly hope that you will avoid making any appointment.

Believe me my dear Sir | Yours sincerely | Ch. Darwin

LS

Swann Auction Galleries (dealers) (11 October 2007)

¹ The correspondent is conjectured from the subject matter; see n. 3, below.

² CD stayed at 6 Queen Anne Street, London, the home of his brother, Erasmus Alvey Darwin, from 17 to 23 January 1878 (CD's 'Journal' (Appendix II)).

³ Crown Prince Rudolph of Austria was staying in London in early January 1878 (*The Times*, 11 January 1878, p. 10). Scherzer, the Austrian consul in London, and a member of the prince's retinue, was a correspondent of CD's. There is no record, however, of a meeting between CD and the prince.

From Hyde Clarke 5 January 1878

32 St George's Square | S.W.

5 Jan^y 1878

My dear Sir,

There is fortunately no "if" in the case.¹

It is fortunately easy for you or any one to test most of the main facts.

There is a book published by the Church Missionary Society called the *Polyglotta Africana* by the Rev^d Mr Kœlle, which received the Volney Prize.²

This is an Atlas of words in 200 African languages.

If you take the similar books for the Indian languages by D^r W W Hunter, Sir George Campbell or Gen^l Dalton, you can compare from the left hand column of Hunter from the groups of Garo &c, Naga, & Kolarian with the African & you will get most of your words, even if an unskilled observer sets himself to the task.³

As another test take the *Hidatsa* or any of the grammars published by D^r Hayden & the US Geological Survey, & you may follow *Hidatsa* almost word for word in the *Polyglotta*, & very closely in Hunter, & then this will bring you into the Subhimalayan languages.⁴

This is a simple scientific & natural history test, & I trust it will be acceptable to you.

Your's faithfully | Hyde Clarke

Charles Darwin Esq DLL⁵ FRS

DAR 161: 162

¹ Clarke had written to CD that he had established 'the unity of language in its development', and CD had replied that if he had, he would have effected a 'most valuable piece of work' (*Correspondence* vol. 25, letter from Hyde Clarke, 27 December 1877, and letter to Hyde Clarke, [29 December 1877]).

² The *prix Volney* is awarded by the Institut de France for a work in comparative philology; Sigismund Wilhelm Kœlle won it for his *Polyglotta Africana* (Kœlle 1854), which compared about 160 African languages.

³ William Wilson Hunter was the author of *A comparative dictionary of the languages of India and High Asia* (Hunter 1868). George Campbell edited *Specimens of the languages of India, including those of the aboriginal*

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tribes of Bengal, the Central Provinces, and the eastern frontier (Campbell ed. 1874). Edward Tuite Dalton's *Descriptive ethnology of Bengal* (Dalton 1872) included vocabularies. In H. Clarke 1875, pp. 9 and 11, Clarke identified the Garo language of India as an early 'class', with affinities to some African languages, and the Kolarian group in India as representative of a prehistoric group of languages. The Naga peoples live in north-eastern India; the Garo language is also spoken in parts of north-eastern India. Kolarian was a term coined by Campbell (Campbell ed. 1874, p. 3) for some tribes of the Central Provinces and Western Bengal who spoke a language distinct from that of other peoples in those areas.

⁴ Washington Matthews's *Ethnography and philology of the Hidatsa Indians* (Matthews 1877) was published under the auspices of the US Geological and Geographical Survey; Ferdinand Vanderveer Hayden was the geologist-in-charge.

⁵ DLL: i.e. LLD, doctor of laws. CD was awarded an honorary LLD by Cambridge University in 1877 (see *Correspondence* vol. 25, Appendix II).

To W. W. Baxter 6 January [1878]¹Beckenham
6 Jan.,

[Asks about the composition of a 'spermaceti ointment' which he has been buying for some years] because I blackened some young shoots of plants with this ointment mixed with Lamp-black & it produced an extraordinary effect on the shoots, which I think cannot be accounted for merely by the exclusion of light.²

Incomplete³

Parke-Bernet (dealers) (6 February 1962)

¹ The year is established by the relationship between this letter and the letter from W. W. Baxter, 7 January 1878.

² CD had painted one side of the cotyledons of *Avena* and *Phalaris* with a mixture of lamp-black and spermaceti ointment in order to ascertain the effect of excluding light, but they became bowed towards the blackened side owing to the grease checking their growth (*Movement in plants*, pp. 467–8). See also letter from Leonard Darwin, 7 January 1878. Spermaceti ointment was used as a mild dressing for blisters, cuts, and grazes (Warren 1859, p. 675).

³ The letter is described in the sale catalogue as being one page long and complete.

From W. W. Baxter 7 January 1878

Bromley Kent
Jan 7th 78

Sir

The Spermaceti Ointment supplied to you is made according to the orders of the British Pharmacopœa which are

Spermaceti 5 ounces

White Wax 2 ounces

Almond Oil 20 ounces or a sufficiency

Would the effects produced be caused by any-thing used in the bleaching the Bees' Wax?¹

The process used to be by exposure to air in thin ribands & in the end refined by melting in water acidulated by sulphuric acid, but what is the mode adopted now I do not know, but will inquire if you wish it.