

HODESLEA, STAVELEY ROAD, EASTBOURNE.

Oct. 26, 1891.

MY DEAR STOKES,

Very many thanks for the copy of *Natural Theology* which has just reached me. I see it will need careful reading.

I hope the report I saw the other day that you were not going to stand for the University again may be true. Scientific razors are too good for chopping parliamentary blocks!

Ever yours very faithfully,

T. H. HUXLEY.

From time to time letters passed between Charles Darwin and Prof. Stokes on philosophical points or on scientific business. The following letters will serve as illustrations, that from Prof. Stokes having been kindly supplied by Mr F. Darwin.

6, QUEEN ANNE ST, LONDON, W.

*Thursday**.

MY DEAR PROF. STOKES,

Absence from home has prevented me from sooner thanking you most sincerely for the trouble which you have so kindly taken for me. I was rather crazy with curiosity to know what the chances were. I believe your way of stating the problem is rather better for me. I think I understand your two letters. The second way of calculating the case is much the best for me. I have made a copy for myself of your MS. sentence and have altered the few words and figures which are necessary. I cannot suppose that I have made any blunder; so if I do NOT receive your sentence back, I shall understand that it is right.

With my sincere thanks, pray believe me,

Yours truly obliged,

CH. DARWIN.

DOWN, BROMLEY, KENT, S.E.

Feb. 18th [before 1870].

MY DEAR SIR,

I have ventured to send my son to you to obtain a little information for me, on one point, if in your power to give it, and by this means you will be saved the trouble of answering this note. Have you ever attended to feathers, and can you tell me

* Mr F. Darwin points out that this letter, which he regards as characteristic, must be dated before 1868, as it refers to a passage in *Variation of Animals and Plants*, Ed. i. 1868, Vol. II. p. 5. Prof. Stokes had supplied a calculation as to the chance of transmission of abnormalities in man.

whether the splendid colours of the eye of a Peacock's tail depends on colouring matter, or on reflection? If on the latter, as appears the case, I much want to know, whether any change of structure,—as the distance of a film, or the distance of fine lines or points from each other—gradually, but perhaps not equally, increasing or diminishing, would account for the series of colours, which surrounds the eye, and passes into the general tint of the barbs at the circumference of the feather. Will you be so kind as to look at the feather, and tell my son anything you can? Pray forgive me for troubling you and believe me,

My dear Sir, yours sincerely,

CH. DARWIN.

Feb. 28th.

I am very much obliged to you for your great kindness in writing to me at such length about the colours of the peacock's feathers. As you say that you will look at it again, will you have the kindness to attend to one point, namely, whether a gradual thickening or thinning by little steps from the centre to the circumference of the film of colouring matter would account for the zones of colour which occur; or must there be zones of different kinds of colouring matter?

With very sincere thanks, believe me,

My dear Sir, yours truly,

CHARLES DARWIN.

LENSFIELD COTTAGE, CAMBRIDGE.

20th Dec. 1875.

MY DEAR SIR,

You may remember that some years ago you asked my opinion as to the cause of the colours in peacocks' feathers. I made some experiments, or rather observations hardly deserving the name of experiments, about it. I felt however that it was a matter hardly to be attacked without a thoroughly good microscope which I did not then possess. I expressed a leaning to the opinion that the colours were reflection-colours connected with intense absorption, and similar accordingly to the reflection-colours seen when some of the aniline colouring matters are poured in solution on glass, and the solvent allowed to evaporate. I felt at the time I think misgivings as to whether so much play of colour as is observed could thus be accounted for.

As I have helped to lead you wrong if you followed my guidance, it is but just that I should direct you to a right solution. Some little while ago I was with Mr Sorby, who wished to show me some other experiments, and I found that he has been studying birds' feathers, as to their colours, and had arrived at the solution of the cause of the play of colours in the feathers of peacocks, humming birds &c. I am not sure whether he has yet published his results. If he has, I have no doubt he will be happy to send you copies of his papers if he has not done so already*. If not, I dare say he would explain to you in a few words their general nature. Though I feel confident of his permission, I refrain as a matter of principle from communicating to a third person what has been told me by a friend of his unpublished researches. Besides it is due to him not to spoil the pleasure he would feel in communicating to you for the first time his own results.

I am, dear Sir, Yours sincerely,

G. G. STOKES.

CHAS. DARWIN, Esq., F.R.S.

METEOROLOGICAL COUNCIL.

In 1866 Prof. Stokes became one of the original members of the Meteorological Council, then and until recently constituted as a Committee of the Royal Society which administered the meteorological affairs of the United Kingdom by means of a Treasury Grant in Aid. The Council was in the following years a very active body. His letters and papers contain masses of material relating to its work. When new projects were under consideration, he was subject to constant reference from the Office on all points of difficulty: his conscientiousness on these matters led him to put aside his own investigations in order to discharge to the full the public duty that he had assumed. As illustrations may be mentioned, the organisation of a plan of systematic observation of the altitude of clouds in 1885; a very interesting correspondence on the observation of trains of waves at sea and the deductions that may be made relating to the distant storms that originated them; the earliest practical construction and

* In the Royal Society Catalogue there are several entries of papers about this time, on the *colouring matters* of algae, black feathers, etc., by Dr H. C. Sorby, but apparently no paper relating to feathers of peacocks or humming birds.