

conquest over the Teutonic theories of development of the colour sense within historical epochs. These theories were supported, on purely philological grounds, by Mr. Gladstone, and others equally conservative, who welcomed and backed arguments, good, bad, or indifferent, against the inclusion of man, 'body, soul, and spirit,' as a product of evolution.

Among the letters which the book evoked, the following, from the pen of the distinguished co-formulator with Darwin of the theory of the origin of species, has chief interest:—

Waldron Edge, Duppers Hill,
Croydon, Feb. 17th, 1879.

Dear Sir,—Very many thanks for your book on 'The Colour Sense.' I have just finished reading it through, and I have seldom read a book with more pleasure. It is full of original and suggestive matter, and is admirable in its clearness and the thorough manner in which many aspects of the subject are discussed.

Of course, I totally dissent from your adoption of 'sexual selection' as a 'vera causa,' though of course you are quite justified in following Darwin rather than me as an authority. I think you overstrain many parts of your argument,

especially the connection of bright colours in animals with the colours of the food. I also think you lay far too great stress on our knowledge of the first appearance of certain groups of plants and insects; but I shall probably deal with these questions in a notice I may write of your book.

I must say I do not see the least force in what you say as to the probable 'identity' of colour sense in 'ourselves' and 'insects.' For it is clear that the optical organs of these two have been developed 'separately'; and if the sensations were 'alike,' it would be a 'coincidence' which we have no reason to expect. The fact that insects differentiate most of the contrasted colours by no means proves, or even affords any probability, that their 'sensations' are anything 'like' ours, and I still maintain that the probability is they are 'unlike.' With 'birds' and ourselves, on the contrary, we may be almost sure the sensations are similar, because our eyes and nervous systems are derived probably from a common ancestor who had both well fairly developed.

A day or two ago, I received from a gentleman residing in Germany a very clever article on the 'Origin of the Colour Sense,' in which he shows physiological grounds for the belief in the great inferiority of the colour sense in all mammals, and the inferiority even of ourselves to birds.

I am very sorry you did not put a good index to your book. It is most difficult to find any special point you want, and causes endless trouble. I feel so strongly on this that I think the publication of Indexless books should be 'felony' without benefit of Clergy! [Compare with this mild penalty that suggested—was it not by Carlyle?—to send the felon who makes no index to his book a couple

of miles the other side of hell, where the devil can't reach him for the stinging nettles.—E. C.]

I need not wish your book success, for it is sure to be successful, as it well deserves to be.—Yours very faithfully,

ALFRED R. WALLACE.

P.S.—In my original paper in 'Macmillan's Magazine' [September 1877], I spoke doubtfully about the prehistoric want of colour sense, because the subject came upon me suddenly just as I had finished my paper. I still think, however, that 'colour blindness' is an indication of imperfection, and I hope evidence will soon be obtained as to its equal prevalence or absence in some semi-civilised race. I doubt its being a product of civilisation, since civilised man makes more use of colour than savage man. It is an interesting and important question.—A. R. W.

In an undated letter (why will people omit a stroke or two, the absence of which—'experto crede'—often causes hours to be spent in arranging correspondence? Allen was a great sinner in this line), presumably referring to the 'Colour Sense,' Darwin says: 'I have read the whole of your book with "great interest." It contains very many views new to me, and highly ingenious, and some new facts.

'I am glad that you defend sexual selec-

tion: I have no fear about its ultimate fate, though now at a discount. Wallace's explanation of, for instance, the display of a Peacock seems to me mere empty words.'

The tribute paid by Darwin, Spencer, and Wallace to Allen's original contributions to theories which he popularised is sufficing answer to some critics who, let it be hoped, through imperfect acquaintance with his work, accord him no higher level than that of a skilful scientific middle-man. That his modesty claimed only this as his function is the greater warrant for crediting him with the independent collection of facts whose value was recognised by the founders of the doctrine of Evolution. In the preface to the 'Colour Sense' he says:—

'One of the main necessities of science at the present day is the existence of that organising class whose want was pointed out by Comte, and has been further noted by Mr. Herbert Spencer. To this class I would aspire, in a humble capacity, to belong. But

remains; and that is that he was not able to fulfil the promise made in the preface to "Flowers and their Pedigrees," that he would write a "Functional Companion to the British Flora."

To the theory that petals have generally been formed from the expanded filaments of stamens, Allen added an ingenious speculation on the original colour of the earliest flowers. The fact that the stamens of flowers of the simplest, and therefore more primitive, type, are yellow, led him to the inference that the earliest flowers derived from them were yellow also. It was shown that the changes in the colours of flowers, which are of course chemically induced, take place in regular order, e.g. yellow flowers becoming white or pink, and then passing through red and purple to blue, this order being without exception and never reversed. In acknowledging a 'Cornhill' article on the subject, Darwin wrote: 'Many years ago I

thought it highly probable that petals were in all cases transformed stamens. I forget (excepting the water-lily) what made me think so ; but I am sure that your evolutionary argument never occurred to me, as it is too striking and apparently valid ever to be forgotten. I cannot help doubting about petals being naturally yellow : I speak only from vague memory, but I think that the filaments are generally white, or almost white, and surely it is the filament which is developed into the petal. I remember some purple and bright yellow filaments, but these seemed to me to serve by adding colour to the white flower. Is it not the pollen alone which renders most stamens yellow at a cursory glance? Many thanks for the pleasure which your article has given me.'

Darwin, ever generous in recognition of the contributions made by others to the strengthening of his theory, not only gratified Allen by a presentation copy of the

'Origin of Species,' which was, of course, accorded the place of honour on his well-filled 'ex dono auctorum' shelf, but subscribed towards the gift of a microscope with which a group of scientific friends made him happy.

Such encouragement was as welcome as it was deserved, for Allen was soon to have the lesson that man cannot live by science alone reinforced. Back in London in 1879, he joined the staff of the 'Daily News.' The information he had gained when preparing articles for the 'Indian Gazetteer,' served him in good stead for leader-writing on the Afghan campaign. But the strain and the late hours which work on a daily paper involved told on his always precarious health, and he accepted with relief the lighter demands of weekly journalism, becoming a principal contributor to 'London.' Andrew Lang, Robert Louis Stevenson, and other coming men were on the staff of that brilliant paper. However, as this letter to

new poet. The commonplace and the conventional seemed to vanish in his company, and we loved to follow him into an ideal land where he vividly pictured things not as they are, but as he hoped they might become. At the Antibes Hotel it was natural that the majority he met differed from him, but to dissentients he was invariably gentle and forbearing. And it not unfrequently happened that a sharp opponent, if not converted, would be turned into a respectful listener. The countless letters he received from admirers and sympathisers heartened him and made him feel his pioneer work bore ample fruit. He never deviated from the one great object of his life—'to make the world accept as a truism in the next generation what it rejected as a paradox in the present generation.' He had the singular power of reading countenances and diagnosing racial features. He would astonish people by saying, 'You are a Pict,' or 'You come from Devonshire,' or 'Your father was French and your mother English'—and he seldom went astray in his definitions. We gave him plenty of opportunity of practising this penetrating and intuitive gift.

We count the day we first met Grant Allen as a festival in our calendar. He seemed to endow his friends with a new set of faculties; and now, years after, we never take our walks abroad without feeling how much we owe to his illuminating talk and inspiring companionship.—Yours affectionately,

ALICE L. BIRD.

The admirable little volume, entitled 'Anglo-Saxon Britain,' in which, following

his bent, the record of political events is subordinated to that of the growth of social institutions, was published in 1881; in the same year a reprint of scientific essays under the title of 'The Evolutionist at Large' was issued, concerning which Darwin wrote:—

I have this minute read the last word of 'The Evolutionist at Large,' and I hope that you will not think me troublesome if I tell you how much the whole has pleased me. Who can tell how many young persons your chapters may bring up to be good working evolutionists! I quite envy you your power of writing—your words flow so easily, clearly, and pleasantly. Some of your statements seemed to me rather too bold; but I do not know that this much signifies in a work of the kind, and may perhaps be an advantage. Several of your views are quite new to me, and seem extremely probable. But I had not intended to scribble so much.

One chief object in my writing has been to ask you, busy as you are, to send me, whenever you can spare time, a 'very few lines,' saying how your health is; for I was grieved to have last winter a very poor account of your health.—Yours sincerely,

CH. DARWIN.

In 1882 another series, entitled 'Vignettes from Nature,' was issued; and remember-