

OCCASIONAL NOTES OF THE QUARTER.

Charles Darwin.

It is too soon yet to estimate the precise value of Darwin's observations and speculations in relation to mental science. That, however, not only the theory of evolution, but what is distinctively Darwinian, has an important bearing on our conception of mental manifestations, no one will call in question who has studied that remarkable contribution to comparative psychology "The Expression of the Emotions in Man and Animals" which appeared in 1872.

To whatever degree, if any, Darwin's theories may have gone beyond the inductions warranted by demonstrated facts, his death is an irreparable loss to science. In the minds of those who saw him laid in the tomb in Westminster Abbey, many and various reflections must have arisen in witnessing the tribute of respect paid to departed talent and worth by all shades of opinion in the religious as well as the scientific world, and the lines applied to a great statesman by Sir Walter Scott cannot fail to have occurred to some as applicable in no small measure to Darwin :

"For talents mourn, untimely lost
When best employ'd, and wanted most.
Mourn genius high, and love profound, . . .
And all the reasoning powers divine
To penetrate, resolve, combine ;
And if thou mourn'st they could not save
From error him who owns this grave,
Be every harsher thought suppress'd,
And sacred be the last long rest.
Here, where the end of earthly things
Lays heroes, patriots, bards, and kings ;
Where stiff the hand and still the tongue
Of those who fought, and spoke, and sung,
If ever from an English heart,
O, *here* let prejudice depart."

Darwin's modesty was as surprising as his power of investigation. Of this, the writer has a striking proof in a letter now before him, which accompanied a presentation copy of the work already referred to, in which he writes : "I should have modified several passages in my book on Expression if I had had the advantage of reading your work before my publication. I always felt, and said so a year ago to Professor Donders, that I have not sufficient knowledge of

physiology to treat my subject in a proper way." It would have been unfortunate, indeed, had this false estimate of his own knowledge prevented the production of this original and suggestive work. It is worth while to give, in this connection, Darwin's own statement of his relation to Herbert Spencer, as contained in this work. "Mr. Herbert Spencer, in treating of the Feelings in his 'Principles of Psychology' (1855), makes the following remarks:—

'Fear, when strong, expresses itself in cries, in efforts to hide or escape, in palpitations and tremblings; and these are just the manifestations that would accompany an actual experience of the evil feared. The destructive passions are shown in a general tension of the muscular system, in gnashing of the teeth and protrusion of the claws, in dilated eyes and nostrils, in growls; and these are weaker forms of the actions that accompany the killing of prey.'

"Here we have, as I believe, the true theory of a large number of expressions; but the chief interest and difficulty of the subject lies in following out the wonderfully complex results. . . . Mr Spencer has also published a valuable essay on the physiology of laughter, in which he insists on 'the general law that feeling, passing a certain pitch, habitually vents itself in bodily action,' and that 'an overflow of nerve force, undirected by any motive, will manifestly take first the most habitual routes; and if these do not suffice, will next overflow into the less habitual ones.' This law I believe to be of the highest importance in throwing light on our subject. . . . I may state, in order that I may not be accused of trespassing on Mr. Spencer's domain, that I announced in my 'Descent of Man' that I had then written a part of the present volume; my first MS. notes on the subject of expression bear the date of the year 1838" (p. 10)

It may not be amiss to recall here what were Mr. Darwin's conclusions on the expression of the emotions. He endeavoured to explain the origin and development of the expressive actions of man and animals by three great principles: first, that movements which are serviceable in gratifying some desire, or relieving some sensation, if often repeated, become so habitual that they are performed, whether serviceable or not, whenever the same desire or sensation is felt, even in a weak degree; secondly, that the habit of voluntarily performing opposite movements under opposite impulses has become firmly established in men by life-long practice, so that if from this first principle of serviceable associated

habits, certain acts have been performed under a certain frame of mind, there will be a powerful tendency to perform opposite acts, whether serviceable or not, from an opposite frame of mind; and thirdly, that from the constitution of the nervous system, quite independently of volition, and to some extent by habit, there is a direct action of the sensorium on the muscles.

Darwin grants that some effects due to the excitement of the nervous system do not follow the track rendered habitual by previous volition, and cannot at present be explained—such as the blanching of the hair from terror, or the tremors and sweating from fear—but he thought that as so many actions admit of explanation by the three principles laid down, we may hope hereafter to see all explained by these or closely analogous principles.

We all know that with Darwin these investigations confirmed the hypothesis that man is derived from a lower animal, and the creed that all the races of men had a common human origin, in other words, the old doctrine of the specific unity of mankind.

A remarkable evidence of the widespread sentiment of esteem for Darwin, and the breaking down of prejudice, is afforded by the fact that in the list of names supporting the memorial to Darwin, of which a circular has been issued by the Royal Society, appears the name of the Archbishop of Canterbury.

Of great interest, also, is the tribute to his memory by M. de Quatrefages, who, as is well known, did not share his views. The President of the French Institute having requested him to discourse on the scientific works of Darwin before that body, said, among other things:—

I have freely criticised his doctrines which are so popular; but I have always and loudly rendered justice to him as a man and a savant. The Academy knows that from the first to the last candidature of our regretted Correspondent, neither my vote nor my speech has been wanting in his favour. Urged by our President, I cannot keep silence to-day. I proceed, therefore, to summarise in as few words as possible the general impression left upon me by his career, which has few parallels in the annals of science.

There were two men in Charles Darwin: a naturalist, an observer, an experimenter (when necessary), and a theorist. The naturalist is exact, sagacious, and patient; the theorist is original and penetrating, often just, often too bold. It is this hardihood which leads Darwin into paths where many less adventurous savants cannot

follow him. But ought we on that account to forget that, before losing his way, and in the midst of even his most imprudent excursions, he had discovered and continually opened out some new road along which the most circumspect of men now follow him? Darwin is never a specialist. To judge his work, it is necessary to be a geologist, botanist, as much as a zoologist. . . . Our illustrious *confrère*, M. de Candolle, has never concealed his admiration for the English savant; and in a letter to me, he says, with his well-known modesty, "It is not me, but Darwin that the Academy should have named as its foreign associate." It is not however by all his work, so far as it brings to science results already acquired, which has procured for Darwin his immense reputation and popularity. It is his theory of the origin of species which has made known to the whole world, ignorant as well as learned, the name of the illustrious Englishman. It is because this theory seemed to respond to one of the warmest, and I do not hesitate to say one of the noblest, aspirations of the human mind; it is because it appeared to explain the world of organic life, in the same way that mathematics, astronomy, geology, and physics have explained the world of inorganic bodies. What Darwin has attempted is to refer to the action of secondary causes only, the marvellous whole which botanists and zoologists study; he desired to make them understand genesis evolution, just as the astronomers and the geologists have taught us how our globe had birth, how its surface has become what we now behold it.

There is nothing but what is perfectly legitimate in this great effort of a great mind, and the conception of Darwin must have in it something serious as well as seductive, to have fascinated not only the crowd which decides on mere assumption, and too frequently according to its desires, but such men as Hooker, Huxley, &c.

It is, in short, the *point de départ* of Darwin which is impregnable. No one now would, I think, dream of denying what the English savant has said of the struggle of existence and natural selection. It is because, up to this point, his theory is based on the foundation of observation and experience. Beyond this, these two guides of modern science suddenly fail him. He who seeks to explain the origin of species, does not ask what it is necessary to understand by this word. I do not wish to inquire here what is the true idea which one ought to entertain of this fundamental group. But still it was necessary that Darwin, if he desired to discuss it, should have a precise idea of it. This is what he has failed to do, and hence he has fallen into vagueness, which has led him into error. It is like a traveller who, following a sure though arid road, should be beguiled into abandoning it by a mirage, and should lose himself in the open desert. But this traveller, although he has lost his way, may discover in the midst of the desert, rich oases whose existence he will reveal. Such has been the destiny of Darwin. It is precisely under the dominion of ideas, which I cannot accept, that he has undertaken and terminated some

of his most curious and important works, works of which he would certainly have never thought, had he followed a more regular road.

The enthusiastic disciples of Darwin affirm that he has explained everything in the organic world. Quite otherwise is the language of the master. No doubt he allows himself to be carried away too frequently by the *élan* of his thought. Very often, however, he preserves sufficient coolness to recognise the reasons and the facts which militate against him. Then he hastens to signalise them with a loyalty which is almost chivalrous. . . .

I cannot in these pages, any more than in my other writings, keep silence as to that which separates me from Darwin. As always, I have done so with regret. In return, I have from the bottom of my heart endeavoured to render him a last and just homage.

In so doing, I think I am in accord with the general feeling of the Academy. It did not at first accept the candidature of Darwin as Correspondent. Some of the English savants have reproached it on this account. That is wrong. For such, the merit of Darwin lay in his theory. By their hesitation in the first instance, the Academy has indicated that it could not be a party to this judgment. Then, on welcoming the author of the book "On the Origin of Species," it has known how to recognise in it all that is important and durable in the complex work of the illustrious naturalist, and to render justice to his true merits. . . .

Now, Darwin is dead, and certainly no one here has grudged sincere and cordial regrets to this true and great savant, who has chosen to pass his whole life consecrated solely to study and meditation in a modest retreat, free from honours which he could have so easily procured, and which have sought him when he can no longer forbid them.

Case of Guiteau.

The assassination of the President of the United States, General James Abram Garfield, on the 2nd of July, 1881, a few months only after his entry upon office, must ever stand out as a prominent event in American history. The long period of eighty days that elapsed between the date upon which the assassin's bullets were fired and the date at which death closed the scene, and released the victim from his sufferings, gave time for creating the most intense interest and sympathy throughout the civilized world, and for producing an indelible impression upon the memory. The interest thus awakened was not suffered to flag, but was kept alive by the unprecedented nature of the trial of the assassin, Charles Julius Guiteau.