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BY

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Reprinted from the American Journal of Pharmacy, November, 1909.

BIOGRAPHICAL SKETCH OF CHARLES DARWIN AND THE DARWIN COMMEMORATION AT CAMBRIDGE.

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Although the annals of the ancient University of Cambridge are illumined by many notable historic events, an occasion which will impart additional lustre to them, and one which will be especially memorable to all who were privileged to participate in it, was the commemoration on June 22–24 of the centenary of the birth of Charles Darwin, and of the fiftieth anniversary of the publication of the work which was destined to exert so great an influence on scientific thought, "The Origin of Species."

The occurrence of the particular period of time which had suggested this commemoration had in other parts not been allowed to pass unnoticed, for it had already in some measure been recognised and honored by various institutions and scientific organisations throughout the world. It was, however, properly reserved for the university at which Darwin completed his academic studies to inaugurate such a celebration as would render an adequate tribute to his genius, and fittingly commemorate the achievements of her distinguished son.

The renewed interest in the life and scientific work of Darwin, stimulated to a considerable extent by the celebration at Cambridge, has already found expression by more or less complete accounts of the latter in ephemeral publications, as well as by memoirs of a broader scope in the various magazines and scientific periodicals. Notwithstanding this fact, the writer, having been accorded the

honor and privilege of representing on this occasion one of the younger institutions of learning of the western world—the Wisconsin State University—has considered that a brief record of the proceedings of the celebration, with the impressions afforded by it, would not be without some features of interest to those engaged in the professional pursuit of pharmacy.

As a prelude to an account of the celebration at Cambridge it is deemed appropriate, and it may be hoped instructive, to very concisely note some of the more important events in the life of the great naturalist, in honor of whose memory these ceremonies were held.

I. BIOGRAPHICAL SKETCH OF CHARLES DARWIN.

Charles Robert Darwin was born on February 12, 1809, at The Mount, Shrewsbury, England, the home of his father, Robert Waring Darwin, a Doctor of Medicine, who was the son of Erasmus Darwin, poet, physician, and philanthropist. On the mother's side he was the grandson of Josiah Wedgwood, the founder of the Etruria Pottery Works, in Staffordshire. In 1817 Charles Darwin lost his mother, and was sent to a day-school at Shrewsbury kept by the Rev. G. Case, a minister of the Unitarian Chapel in which Coleridge preached. Here he remained for about seven years, and regarding this period he has written as follows: "By the time I went to this day-school my taste for natural history, and more especially for collecting, was well developed. I tried to make out the names of plants, and collected all sorts of things, shells, seals, franks, coins, and minerals. The passion for collecting which leads a man to be a systematic naturalist, a virtuoso, or a miser, was very strong in me, and was clearly innate, as none of my sisters or brothers ever had this taste." The tuition received in these early years appears, however, not to have been attended with very satisfactory results, if one may judge from the opinion which Darwin himself has recorded. "I was at school at Shrewsbury under a great scholar, Dr. Butler. I learnt absolutely nothing, except by amusing myself by reading and experimenting in chemistry." When it became known that he was a self-taught student of practical chemistry, he received the school nickname *Gas*.

Darwin left school at a somewhat earlier age than was usual at that time, but, apparently, on account of lack of progress in his studies. With a view to reading for a degree in medicine he was

sent, in October, 1825, to the University of Edinburgh, where his brother was completing his medical studies, and he remained there for two years. The University teaching at that time was altogether by lectures, and it is stated that Darwin found these to be intolerably dull, with the exception of those on chemistry by Hope. His own expression regarding them sufficiently confirms this view. "Dr. Duncan's lectures on *materia medica* at 8 o'clock on a winter's morning are something fearful to remember. Dr. —— made his lectures on human anatomy as dull as he was himself, and the subject disgusted me." Later in life, however, he regretted that he did not practice dissection more diligently, and that he did not attempt to develop a capacity for drawing. It was at Edinburgh that Darwin took his first lessons in stuffing birds, and his preceptor was a negro who at one time had travelled with Waterton. While there he also once attended a meeting of the Edinburgh Royal Society when Sir Walter Scott took the chair as President.

During the year 1828 it was perceived that Darwin did not like the idea of being a physician, and his father therefore proposed that he become a clergyman. For this purpose it was necessary that he should go to one of the English Universities and take a degree. He accordingly entered into residence at Christ's College, Cambridge, in 1828, and graduated in 1831. The rooms occupied by him at this College, where Milton also had studied, were shown to the visitors during the recent celebration. Since Darwin's time they have been occupied by the present Dean of Westminster and successive College Deans.

With regard to the instruction received at Cambridge, Darwin does not appear to have entertained a very high opinion of its educational value, for he has written in this connection as follows: "During the three years which I spent at Cambridge my time was wasted, as far as the academical studies were concerned, as completely as at Edinburgh and at school." Notwithstanding this view, which was doubtless a somewhat exaggerated regret of maturer years, it is believed that Darwin had a real love for Cambridge, to which University he sent all but one of his five sons, for in his autobiography he has also not failed to give expression to the following more appreciative sentiment: "Upon the whole, the three years I spent at Cambridge were the most joyful of my happy life." It was, moreover, through the influence of one of his teachers at Cambridge, Professor Henslow, who occupied the chair of botany,

and with whom he became very intimate, that Darwin was invited to join the expedition of H. M. S. "Beagle," in the capacity of a naturalist.

On December 27, 1831, Darwin sailed from England in the barque mentioned, and this voyage of circumnavigation occupied five years. It was regarded by him as the most important event of his life, and one that determined his whole career. After his return to England, in the autumn of 1836, he again spent a few weeks in Cambridge, where he was occupied in unpacking and distributing the collections made on his South American voyage. In 1837 Darwin took up his residence in London, and in 1839 was married to his cousin, Emma Wedgwood, the daughter of Josiah Wedgwood, who died in 1896. The untiring and life-long devotion of this good woman has been recorded by their son, Mr. Francis Darwin, who, in the "Life and Letters," renders the following beautiful tribute to his mother, without whose constant and watchful care the work of the great naturalist would probably never have been accomplished. He writes: "If the character of my father's working life is to be understood, the conditions of ill-health, under which he worked, must be constantly borne in mind. . . . No one indeed, except my mother, knows the full amount of suffering he endured or the full amount of his wonderful patience. . . . For nearly forty years he never knew one day of the health of ordinary men, and thus his life was one long struggle against the weariness and strain of sickness. And this cannot be told without speaking of the one condition which enabled him to bear the strain and fight out the struggle to the end."

It was also in the year 1839 that Darwin published his *Journal and Researches,* being Vol. III of the *Narrative of the Surveying Voyage of H. M. S. Adventure and Beagle.* In 1842 he wrote a very brief abstract of his theory of species, in pencil, comprising 35 pages. This manuscript, edited by his son, Mr. Francis Darwin, has recently been published by the Cambridge University Press under the title: "The Foundations of the Origin of Species," and a handsomely bound copy was presented to each of the delegates attending the Darwin celebration. The manuscript referred to was extended during the summer of 1844 to 230 pages, and a volume comprising both of these essays has likewise recently been published.

In the autumn of 1842 Darwin settled at the village of Down, in Kent, 18 miles from London, which is described as "a place

where new-comers are seldom seen, and where the names occurring in the old church registers are still borne by the villagers." This quiet rural retreat was destined to be his home for a period of 40 years, or until his death in 1882. His literary activity during the intervening years may here briefly be indicated, some of the following works having been published in several editions:

1842. *The Structure and Distribution of Coral Reefs;* being Part I of the *Geology of the Voyage of the Beagle.*
1844. *Geological Observations on the Volcanic Islands visited during the Voyage of H. M. S. Beagle;* being Part II of the *Geology of the Voyage of the Beagle.*
1845. Publication of the *Journal of Researches* as a separate book.
1846. *Geological Observations on South America;* being Part III of the *Geology of the Voyage of the Beagle.*
1851. *Monograph of the Fossil Lepadidæ* and *Monograph of the sub-class Cirripedia* (Barnacles).
1854. *Monographs of the Balanidæ and Verrucidæ.*
1858. Joint paper by Charles Darwin and Alfred Russel Wallace "On the tendency of species to form varieties; and on the perpetuation of varieties and species by natural means of selection," communicated to the Linnean Society by Sir Charles Lyell and Sir Joseph Hooker (read July 1).
1859. Publication of "*The Origin of Species.*" This was referred to by Huxley, in 1887, as "the most potent instrument for the extension of the realm of natural knowledge since the publication of Newton's 'Principia.'"
1860. Publication of a *Naturalist's Voyage.*
1862. A book *On the various contrivances by which Orchids are fertilised by Insects.*
1865. A paper read before the Linnean Society "*On the Movements and habits of Climbing Plants.*" (Published as a book in 1875.)
1868. *Variation of Animals and Plants under Domestication.*
1871. *The Descent of Man.*
1872. *The Expression of the Emotions in Man and Animals.*
1875. *Insectivorous Plants.*
1876. *The Effects of Cross and Self-fertilisation.*
1877. *The Different Forms of Flowers on Plants of the same Species.*

1880. *The Power of Movement in Plants.*
1881. *The Formation of Vegetable Mould, through the action of Worms.*

The above list of publications is not intended to comprise what may be regarded as the minor scientific contributions, many of which, for example, are contained in the Journal of the Linnean Society and other periodicals.

In 1853 Darwin received one of the two Royal medals which are awarded by the Sovereign upon the recommendation of the Council of the Royal Society. In 1864 he was awarded the Copley Medal, the highest honor which the Royal Society can confer, and in 1867 he received the Prussian Order " Pour le Mérite." No less than sixty scientific societies had bestowed upon him an honorary membership.

The career of this eminent investigator closed on April 19, 1882, and he was laid to rest in Westminster Abbey, a few feet from the grave of Sir Isaac Newton, who, as a member of Trinity College, was also one of the most illustrious sons of Cambridge.

In connection with the preceding sketch it would appear to be of interest to record a list of the plants named after Darwin. This list, which has only recently been published, was compiled by Dr. B. Daydon Jackson, General Secretary to the Linnean Society, and for it the writer is indebted to the Darwin Centenary Number of " Christ's College Magazine," Vol. XXIII, No. 70, Cambridge.

Phanerogams.

Abutilon Darwini, Hook, f.—Bras.
Baccharis Darwinii, Hook. et Arn.—Patagon.
Berberis Darwinii, Hook.—Chile.
Bonatea Darwinii, Weale=Habenaria cassidea, Reichb. f.
Calceolaria Darwinii, Benth.—Reg. Magell.
Catasetum Darwinianum, Rolfe—Guiana.
Carex Darwinii, Boott.—Reg. Magell.
Chiliotrichum Darwinii, Hook. f.=Nardophyllum Darwinii, A Gray.
Clinopodium Darwinii, Kuntze=Micromeria Darwinii, Benth.
Colderia Darwinii, Gürke=C. dichotoma, Lehm.
Eugenia Darwinii, Hook. f.—Chile.
Fagelia Darwinii, Kuntze=Calceolaria Darwinii, Benth.
Galapagoa Darwinii, Hook. f.=Colderia dichotoma, Lehm.

Laelio-Cattleya Darwiniana × hort.
Lippia Darwinii, Speg.=Neosparton Darwinii, Benth. et Hook. f.
Micromeria Darwinii, Benth.—Patagon.
Myrtus Darwinii, Barn.—Chile.
Nardophyllum Darwinii, A. Gray.—Patagon.
Nassauvia Darwinii, O. Hoffm. et Dusén.—Reg. Magell.
Neosparton Darwinii, Benth. et. Hook. f.—Bras.
Opuntia Darwinii, Hensl.—Patagon.
Oxalis Darwinii, Ball.—Patagon.
Panargyrus Darwinii, Hook. et Arn.=Nassauvia Darwinii, O. Hoffm. et Dusén.
Pisonia Darwinii, Hensl.—Ins. Fernando Noronh.
Pleuropetalum Darwinii, Hook. f.—Ins. Galapag.
Polygala Darwinii, A. W. Benn.—Patagon.
Satureia Darwinii, Briq.=Micromeria Darwinii, Benth.
Scalesia Darwinii, Hook. f.—Ins. Galapag.
Senecio Darwinii, Hook. et Arn.—Patagon.
Urtica Darwinii, Hook. f.=U. magellanica, Juss.
Veronica Darwiniana, Colenso.—N. Zel.
Zinnia Darwiniana, Haage et Schmidt=Glossogyne pinnatifida, DC.

Cryptogams.

Ferns, none noted.

Moss.

Ulota Darwinii, Mitt.—Patagon.
Syn. Orthotrichum Darwinii, Mitt.

Algæ.

Asteromphalus Darwinii, Ehrenb.—Calif.; Reg. antarct.
Syn. Asterolampra Darwinii, Grev.
Aulacodiscus Darwinii, Pant.—Russia (fossil).
Chaetomorpha Darwinii, Kuetz.—Patagon.
Syn. Conferva clavata var. Darwinii, Hook. f. et Harv.
Cheilosporum Darwinii, De Toni.—Chile.
Syn. Amphiroa Darwinii, Harv.
" Arthrocardia Darwinii, Harv.
Lithophyllum Darwinii, Fosl.—S. Australia.
Syn. Lithothamnion Darwini, Aresch.
" Melobesia Darwini, Harv.

Lichens, none noted.

Fungi.

Asterina Darwinii, Berk.—Patagon.
Cortinarius Darwinii, Speg.—Patagon.
Cyttaria Darwinii, Berk.—Reg. Magell.
Hypocopra Darwinii, Speg.—Patagon.
Lalboulbenia Darwinii, Thaxt.—Bras.
Torula Darwinii, Speg.—Reg. Magell.

II. THE COMMEMORATION AT CAMBRIDGE.

The ceremonies referred to in the introduction to this essay were initiated on the evening of June 22 by a Reception of the delegates and other invited guests by the Chancellor of the University, Lord Rayleigh, O.M., F.R.S., in the Fitzwilliam Museum, Cambridge. As most of those present on this occasion wore their academic robes, with decorations and orders, there was a variety of costume and a brilliancy of color which rendered the scene one of almost regal splendor. This function has, indeed, been described as representing the most distinguished company of scientists that has ever gathered under the shadow of the ancient university. It could, no doubt, quite correctly and more adequately be stated that an assembly of this character had never before been witnessed in any part of the world. Not only were the universities and learned societies of the British Isles fully represented, but also many similar institutions in foreign lands, including even the most distant parts of the earth, for delegates had been sent from the United States and Canada, South America, Africa, Australia and New Zealand, Austria-Hungary, Belgium, France, Germany, Greece, Holland, Italy, Norway, Sweden, and Denmark, Portugal, Spain, Russia, Switzerland, Egypt, India and Ceylon, Java, and the Straits Settlements.

The various countries above mentioned were, moreover, not represented by single delegates, but in many cases by a considerable number, for there were 28 from the United States, 30 from Germany, and 15 from France, while those from the smaller nations or more distant parts, together with the invited guests, formed collectively a large group. This great company, consisting both of old men whose eyes had grown dim over the microscope and of those younger in years who are still endeavoring to fathom the mysteries of organic life, had come, like pilgrims to the shrine of a prophet, to do homage to the memory of Darwin. It was of interest to reflect what the feelings of the great naturalist would have been if he

could have witnessed that brilliant assembly, for although there have been wonderful developments in every branch of science since the "Origin of Species" first startled the world, the celebration of the fiftieth anniversary of its publication was of such a character as to bear undisputed testimony to the fact that it was the work of Darwin which opened up the new world of biological knowledge and gave inspiration to those who followed in his steps.

The most interesting and important part of the celebration consisted of the proceedings on June 23, which were a blend of dignified ceremony and lighter social functions. In the morning, at the Senate House, the proceedings were opened by an address by the Chancellor of the University, Lord Rayleigh, after which congratulatory addresses were presented by the delegates from the various countries represented, nearly all of whom wore their academic robes. Among those participating in this ceremony were four sons of Darwin, namely: Sir George Darwin, who appeared for the Roman Academy Dei Lincei, Major Leonard Darwin, as President of the Royal Geographical Society, Mr. Francis Darwin, President of the British Association, and Mr. William Erasmus Darwin, the eldest son, as delegate for the Hartley College, Southampton. There were, furthermore, speeches by Professor Oscar Hertwig, of Berlin, Professor Elie Metchnikoff, of Paris, Sir E. Ray Lankester, of London, and Professor Henry Fairfield Osborn, of New York. The latter, in addressing the gathering, paid an eloquent tribute to the University of Cambridge and the genius of Darwin. Although his oration, for want of space, cannot be fully recorded here, the sentiments which it embodied may very briefly be indicated.

He assured them of the great privilege the delegates from the United States felt it to be of uniting in the celebration of Darwin's birth, and referred, in affectionate terms, to the maternal ties which bound the Universities of America, through Harvard, with the University of Cambridge. To no other institution in any country might they turn with such a sense of filial gratitude. The growth of the influence produced by the trans-atlantic universities upon American life was noted, and the fact that, through the survival of the best, the political guidance of the nation was passing more and more, as in the British Empire, into the hands of men who had been trained in the Colleges. A son of Yale, for example, had succeeded a son of Harvard as President of the United States. Concluding with a panegyric upon Darwin, he said that the American delegates, naturalists, and friends desired to present to Christ's College, as a memorial of their visit, a portrait

of Charles Darwin in bronze, the work of their countryman, William Couper, a portrait which they trusted would convey to this and succeeding generations of Cambridge students some impression of the rugged simplicity, as well as of the intellectual grandeur, of the man they revered and honored.

In connection with the presentation of addresses by the English delegates, Sir Archibald Geike, on behalf of the Royal Society, of which he is President, offered for the acceptance of the University a copy of the Darwin medal, which had been specially struck in gold in commemoration of this occasion.

In the afternoon of the same day a delightful garden party was given by the Master and Fellows of Christ's College, the attraction of which was further enhanced by an exhibition of objects connected with Darwin and his work, such as portraits, books, medals, diplomas, and a quite extensive collection of manuscripts and letters. One of the objects exhibited caused considerable amusement. This was a diminutive representation of a monkey, dressed in academic colors, but now somewhat mouldy with age, which irreverent undergraduates had let down from the gallery of the Senate House and suspended over Darwin's head when he received his honorary degree at Cambridge.

It was on the occasion of the garden party that the bronze bust of Darwin, already referred to, was formally presented. This little ceremony took place in the old library of Christ's College, where a small group of American delegates had assembled for the purpose. The presentation was made in a few graceful words by Professor Osborn, of New York, and the acceptance of the gift was acknowledged by a highly appreciative response on the part of the Master of the College.

One of the most distinguished of those observed in the beautiful grounds of the College on that bright summer afternoon was the venerable Sir Joseph Hooker, a most intimate and steadfast friend of Darwin, and now the doyen of British science. Although Sir Joseph has already attained the great age of 92 years, he appeared extremely happy, and entered into the spirit of the occasion with remarkable vivacity.

In the evening a grand banquet was held in the examination hall, which was attended by a company numbering about 500. Lord Rayleigh, the Chancellor of the University, was in the chair, and the principal guest was the Rt. Hon. A. J. Balfour, who proposed the toast "To the memory of Charles Darwin." This was

followed by an appreciation from Dr. Svante Arrhenius, of Stockholm, and Mr. William Erasmus Darwin, who replied, gave some charming reminiscences of his father's home life. The concluding toast was "The University of Cambridge," given by the Vice-Chancellor. After the banquet an "At Home" was held by the Master and Fellows of Pembroke College in their grounds, which were brilliantly illuminated for the occasion.

On June 24 the celebration was continued, at the Senate House, by the presentation of honorary degrees to a number of distinguished scientists. The procedure practised at Cambridge is very simple, though dignified. Each candidate is escorted in turn by the Esquire Bedell from his place, and stands in front of the Chancellor, who is attired in a gown resplendent with gold lace, while the Public Orator, standing on the Chancellor's right, makes the presentation in a Latin oration. At its conclusion he shakes hands with the candidate, the Chancellor rises, and, holding the candidate by the hand, pronounces the formula of admission. There is no capping or investiture with robes, but the newly made doctor, who already wears the gown, now takes his seat on the dais. It was an interesting circumstance that the same Public Orator, Dr. Sandys, had 31 years ago presented Darwin himself for his honorary degree.

This imposing ceremony was followed by the Rede lecture, delivered by Sir Archibald Geike, President of the Royal Society. The subject of his discourse was "Darwin the Geologist."

In the afternoon the celebration was brought to a close by a garden party given by the members of the Darwin family in the beautiful grounds of Trinity College. This was largely attended, and afforded not only the pleasure of meeting the direct descendants of the great naturalist, but also the opportunity for a final exchange of greetings, for among those earnest men of science many new acquaintanceships had been formed, while old associations had been most happily revived.

The hospitality extended by the University authorities to the delegates and other guests during their stay in Cambridge was unbounded, and the writer will ever retain a grateful recollection of the kindness received at the hands of the Master and Fellows of Emmanuel College. This institution, founded in 1584, possesses, as is well known, associations of special interest to Americans, inasmuch as John Harvard (founder of Harvard University) and

several of the Pilgrim Fathers were at one time students within its walls.

In conclusion, it need only be noted that the brief sketch which has here been given of Charles Darwin's life, and of the celebration which was designed to commemorate his scientific attainments, must necessarily be very incomplete. It is hoped, however, that, while indicating where a wider knowledge of his work may be found, it may also serve, in some slight degree, to inspire and encourage those of the younger generation who are treading in lowlier paths of research and discovery.

LONDON, August, 1909.