DARWIN CELEBRATION, CAMBRIDGE, JUNE, 1909.

SPEECHES DELIVERED AT THE BANQUET HELD ON JUNE 23rd.

Price SIXPENCE.

PREFATORY NOTE.

The following speeches were delivered on June 23rd, 1909, at the Banquet given by the University of Cambridge in honour of the Delegates to the Darwin Celebration. It is believed that those who were present may like to possess a memento of that occasion; and that a record of what was said, probably more complete than any which has appeared in the Press, will be appreciated by those who had not an opportunity of hearing the speeches. We desire to express our cordial thanks to the Proprietors of the *Cambridge Daily News* for permitting us to re-publish their short-hand report of the speeches.

GEORGE DARWIN.
FRANCIS DARWIN.

July, 1909.

DARWIN CELEBRATION.

"The King" was proposed by the CHANCELLOR (Lord Rayleigh).

The Right Hon. A. J. BALFOUR* said: Chancellor, your Excellencies, my Lords, and Gentlemen, I have been requested, by those who are responsible for the organisation of this celebration, to take that part in it which has been announced in no uncertain tone. I am conscious of but two qualifications which I possess for the task. The one is the deepest personal affection and the most unstinted admiration for the subject with which I am asked to deal; the second is that I yield to no man in my loyal devotion to the University of which Charles Darwin was one of the greatest ornaments. I think it may well thrill the minds of every son of Cambridge to reflect on the part which his University has played in leading great movements, those great cosmic movements whose effects are never obliterated by the progress of science, or the development of discovery, but which remain as perpetual landmarks in the intellectual history of mankind. This day and on preceding days we are concerned with Charles Darwin. Charles Darwin, though one of the greatest of men of science the world has seen, has, even in Cambridge, great rivals. Will it be erroneous to say that much of the best scientific thought of the 18th century was devoted to developing those great mechanical ideas which the world owes to Newton? During that century men largely spent their time in developing ideas the origin of which we can with perfect certainty trace to the greatest ornament of

NOTE.—* Mr. Balfour's attention was called to one or two obvious slips in the reporting of his remarks, but the speech as a whole has not been revised by him.

our University, and perhaps the greatest man the world has ever seen. Is it not true that the greatest scientific minds of the 19th century were largely occupied with another allied set of problems, those connected with the character of the ether and the energies of which ether is the vehicle; and that in Cambridge we may claim to have educated Young, Kelvin, Maxwell, Stokes—I do not carry the catalogue into the realm of the living—men whose names will for ever be associated with that vast expansion of our knowledge of the material universe, associated with the theory of the ether, the theory of electricity, of light and that great group of allied subjects. If we have not in that department a clear and undoubted lead, which Cambridge men may surely claim that Newton gave in another department, at least we have borne our fair share, and more than our fair share, of the heat and burden of scientific investigation. And we are now occupied with pardonable pride in turning our attention to one who in another wholly different sphere of scientific investigation has for all time imprinted in unmistakable lines his unmistakable signature upon the whole development of future thought. I do not wish to exaggerate on such an occasion, because of all crimes Charles Darwin would have disliked exaggeration in anything connected with science, and most of all in anything connected with his own claims. Yet the fact remains that Charles Darwin has become part of the common intellectual heritage of every man of education, wheresoever he may live, or whatsoever be his occupation in life. The fact remains that we trace, perhaps not to him alone, but to him in the main, a view which has affected not merely our ideas of the development of living organisms, but ideas of politics, ideas upon sociology, ideas which cover the whole domain of human terrestrial activity. He is the fount, he is the origin, and he will stand to all time as the man who made this great—as I think—beneficent revolution in the mode in which educated mankind conceive the history, not merely of their own institutions, not merely of their own race, but of everything which has that unexplained attribute of life, everything which lives on the surface of the

globe, or even the depths of its oceans. After all Darwin was the Newton of this great department of human research, and to him we may look, as we look to Newton to measure the heavens or to weigh suns and their attendant planets. The branch of research which he has initiated is surely the most difficult of all. I talk of measuring the heavens and weighing suns; but those are tasks surely incomparably easy compared with the problem which taxes the physiologist, the morphologist, in dealing with the living cell, be it of plant or be it of animal or man. That problem, the problem of life, is the one which it is impossible for us to evade, which it may be impossible for us ultimately to solve, but in dealing with it in its larger manifestations Charles Darwin made greater strides than any man in the history of the world had made before him, or that any man so far has made since that great anniversary of the publication of the "Origin of Species" which we have met this week to celebrate. We have heard this morning, from lips far more expert than mine, some estimate of the genius of that great man in whose honour we have met, and I feel it would be impertinent to add to anything which has been said. One aspect, and one aspect alone, of Darwin's scientific genius seems to me to be insufficiently appreciated, at all events by the general public, of which I am one, and on whose behalf I may be supposed to speak. I mean the great achievement which Darwin made in science quite apart from —I may not say quite apart, but distinct from—that great generalisation with which his name is immortally connected. Let us assume that Darwin was not the author of the theory of the "Origin of Species"; let us assume that the great work which he did in connection with the ideas of the evolution of human beings had never taken place. Would he not still rank as one of the most remarkable investigators whom we have ever seen? I am, of course, not qualified to speak as an expert upon this subject, but I appeal to those—and there are many in this room—who are experts. Is it not true that quite apart from his theories of evolution, that in zoology, in botany, in geology, in anthropology, in the whole sphere of these great allied sciences, Charles Darwin

showed himself one of the most masterly investigators, proved himself to have the power of the loving investigation of natural phenomena; showed himself to be able to cast a new and an original light upon facts the most commonplace and the most familiar, and to elicit from them lessons which men of science must always value quite apart from the great uses to which his genius was able to put them? It is, I think, satisfactory to see that in order to gain a place second to none in the growing list of great men of science, it is not merely necessary to have the power of ingenious generalisation which is given to many, to some who have not other powers. Darwin's great achievement was due to the fact that with this power of generalisation, and ancillary to it, he had the power of investigation, the power of seeing the problems that required solution in the world in which he lived, which, so far as I know, has seldom been equalled, and certainly never been surpassed in the biography of great men of science. I cannot conclude without saying something about Charles Darwin the man, as well as Charles Darwin, the great man of science. Some of us—I am proud to think I am one among many in this room—knew Charles Darwin personally. Those who had not that great honour and that great pleasure have the next best thing to it in the biography, which reveals the man as clearly as printed matter can reveal living human personality. I am sure I am not in the least going beyond the bare and naked truth when I say that quite apart from his great scientific achievement, there never lived a man more worthy of respect and more worthy of love than this great naturalist. From the very nature of the case his great generalisation, from the very fact of its magnitude, produced, as was inevitable, violent controversy, and human nature in 1859 and 1860 was not different from human nature in 1909, and violent controversy then, as now, was prolific, and must be prolific, in misrepresentation. So far as I am aware no misrepresentation moved that equable temperament. Darwin never was betrayed into uncharitable observations; he never was embittered by any controversy, however unfair, but he

pursued the even tenor of the man whose business it was to investigate the truths of nature and to state fact as he saw fact, to proceed irrespective of all the storm of indignation and of misplaced antagonism to which his speculations at the moment inevitably led. That is a great quality. It is a quality which few men of science have possessed in equal measure. Most scientific discoveries are so remote from the knowledge and immediate interest of uninstructed mankind that the man of science may pursue his way tolerably secure of escaping abuse from any but his scientific rivals. That was not Charles Darwin's fortune. He, through no fault of his, and let me add through no fault of the community to which he gave his discoveries, inevitably produced general controversy, for those discoveries attacked the conception which every man had formed of the world in which he lived and of the race to which he belonged. On the whole I think it is creditable to everyone concerned that that controversy went on with so little bitterness and so little misrepresentation. But there was bitterness and there was misrepresentation, yet never did it deflect for one instant, so far as I am aware, the strict path of scientific rectitude and of admirable charity which always characterised that great man. When we remember under what circumstances of ill health Darwin pursued, decade after decade, these immortal investigations, I think our admiration for his temper, for his moral character, is augmented by a feeling of further admiration for the heroism with which he fought against these untoward physical conditions. Never did he lose his interest in his work, never was he discouraged. He went on from discovery to discovery and from truth to truth, unwearied and unfatigued, leaving behind him the immortal reputation which we are here to celebrate. I do not think that all the history of science has produced a genius whose memory a great University could more fitly celebrate, or one whose contributions to knowledge, the representatives of other great centres of learning would more gladly assemble to honour. I have ventured, perhaps too boldly, to praise Cambridge and those whom Cambridge has produced, but our guests

will forgive in a son of Cambridge a momentary excess of emotion, if not of statement; and if you think I have exaggerated the fame of my own University, you will at all events agree that I have not exaggerated the merits of the man to whom we have met to do honour. For he was a man whose performances have become part of the common intellectual heritage of mankind, through whose ideas we look at every problem, not merely those connected with the lower organisms, but those connected with society, as an evolutionary question; and he was above all a man whose heroic disposition and whose lovable qualities would, even if he had not otherwise gained that immortal niche in the temple of fame, still commend him to every man who either knew him personally, or who by tradition has been able to form some estimate of the rare qualities which he exhibited. There is another speech to be delivered on this great theme by one incomparably more qualified than I can pretend to be to deal with Charles Darwin on the scientific side, and I will leave to him the grateful task of asking you to drink to the memory of Charles Darwin.

DR. SVANTE ARRHENIUS said: Chancellor, your Excellencies, my Lords and Gentlemen, Evolutional ideas are as old as human civilisation. We find traces of them in old Egyptian legends of the growth of mankind, in Hindoo myths as well as in the cosmogony of Hesiod, and in Ovid's "Metamorphoses." During the lapse of centuries they were developed by philosophers and astronomers, and in the 18th century, when most modern sciences took a distinct shape, those ideas formed important parts of the scientific work of Kant, and still more in the admirable theoretical speculations of Lamarck. But still, the finalist school, founded on primitive and mediaeval considerations, was in the highest degree preponderant, and the leading biologist at the end of that century, Cuvier, had no conception of evolutionism. Even in Kant's works we find the finalistic idea prevailing.

To bring about the now prevailing evolutionary ideas a great work was necessary, in order that these should be developed into a system embracing all the biological sciences with the strictest logic and the severest criticism. The

attempts made at the beginning of the 19th century by many scientific men, amongst whom the name of Charles Darwin's grandfather, Erasmus Darwin, may be recalled, were far from sufficient. The epoch-making work was accomplished by Charles Darwin, who with an unrivalled patience and diligence, as well as a rare impartiality during nearly 30 years, collected and sifted the enormous material upon which was based his masterly work, "The Origin of Species."

It must be said that the time was ripe for the triumph of the conception of evolution, as was clearly indicated by the simultaneous work of Wallace on biology, and by the publication of Herbert Spencer's philosophical investigations. Charles Darwin was also immediately followed by enthusiastic and prominent adherents, such as Huxley and Haeckel who propagated and worked out the new doctrine. This rapid success also caused a strong reaction from the side of the representatives of the old finalistic ideas, grown strong through centuries. The battle fought between the two parties carried the new ideas into common life far from the scientist's and the philosopher's study. During the last decade of his life Darwin had the good fortune to see his ideas brought to definite victory and generally accepted, not only in the vast domain of biology, which has been referred to so eloquently this morning, but even by scientists in general, and by enlightened public opinion. Charles Darwin had a clear conception of the far-reaching importance of his ideas. He applied them in elaborate investigations concerning the development of the intellectual and reflective faculties, to the formation of primitive social ideas amongst animals and men; to the genesis of the most elementary moral and religious conceptions, as well as to the fundamental problems of anthropology. The more these various questions have been discussed the more the doctrine of evolution has grown in strength, and the greater has been the extent to which science has been brought under its beneficent influence. Now-a-days there is hardly a science which has not been affected by, and in many cases thoroughly permeated by it. The sociological and statistical sciences now rest on an evolutional basis. History, and especially the history of culture, has found through it new

lines of development; the lawyer sees the legislative work of past generations, and foresees their future modifications from the standpoint of evolution; the criminologist seeks the sources of crime in the influence of heredity and environment; and even the theologian, who so long rejected the new ideas, now finds in them essential points of high ethical value, which he seeks to reconcile with true religion. At the same time the investigators in exact sciences, where the doctrine of evolution was adopted earlier than in biological sciences, are inspired to new and successful efforts to use it, as is, for example, obvious from the researches of Sir George Darwin, who, as well as the other members of the family, give a brilliant example of the heredity of intellectual qualities. Science is international, and this momentous movement has been felt in every country in the civilized world. Therefore we, representatives of all sciences, have come from all parts of the world to join Cambridge in doing honour to the memory of the greatest of all evolutionists. All of us are profoundly sensible that the great intellectual revolution, which was due to the introduction of evolution, is the most important event in the development of human mind since the mighty political movement which began with the storming of the Bastille, 120 years ago. There is, however, this significant difference between that time and the present, that whereas in such a period mighty changes in the social, political and intellectual development of mankind, were only affected by strife and the horrors of war. To-day, thanks to civilising progress, this change has been accomplished by reason and persuasion. "The pen has been mightier than the sword." How much may we not congratulate ourselves that we have lived in such a period? In reality, the doctrine of evolution is inconsistent with violence, and we may hope, therefore, that it will give a mighty impetus to the maintenance of peace and a good understanding between civilised nations. In thus venerating Darwin's memory all men of science regard him not only as an ideal man of science, but as a man of science whose power and influence has been enhanced by his integrity and moral worth.

The toast was drunk in silence.

Mr. WILLIAM ERASMUS DARWIN said: Chancellor, your Excellencies, my Lords and Gentlemen, I need hardly say that this assemblage of distinguished men, met together from all quarters of the world to do honour to his memory, would have almost overwhelmed my father, and I am very conscious of the great difficulties that meet me and of the very great honour that is paid me in being called upon to express the feelings of my family on this occasion. I remember that my father once wrote to Sir Joseph Hooker, whom we are so delighted to have with us in Cambridge to-day, on an occasion when Sir Joseph Hooker had to make an address or after-dinner speech, that he pitied him from the bottom of his soul, and that it made his flesh creep to think of it. I am sure that he would have pitied me ten-fold in these very especial circumstances, and I can only trust to your kind consideration, and ask that my shortcomings be not too severely criticised. When I had the honour of being asked to speak to-night I was most kindly given a free field, with no limitations or directions of any kind; but it was clear to me that it would be utterly unfitting and presumptuous on my part if I attempted, before such an audience as this, to speak of my father in regard to his scientific career, even if I were in other respects qualified. Therefore I can only speak of him as a man and as I knew him from a child.

I have been thinking over the characteristics of my father which are quite apart from the qualities on which his influence and his success as a man of science depended, and I think the quality which stands out in my mind most pre-eminently is his abhorrence of anything approaching to oppression or cruelty, and especially of slavery; combined with this he had an enthusiasm for liberty of the individual and for liberal principles. I can give you one or two illustrations, which are very slight in themselves, but one of them has remained impressed on my memory since early boyhood. There was living very near us at Down a gentleman farmer, with whom my father was slightly acquainted. It became reported that this man had allowed some sheep to die of starvation. My father heard of it and t

once took up the matter, and though he was ill and weak and it was most painful to attack a near neighbour, he went round the whole parish, collected all the evidence himself, and had the case brought before the magistrates, and as far as I can recollect he got the man convicted. This, I remember, as a boy impressed me immensely; he took it so seriously and devoted himself to it, though his health was in such a bad state. The next case is a personal matter, if you will excuse my referring to myself, At the time of the trial of Governor Eyre I had come from Southampton, where there had lately been held a public meeting in favour of Governor Eyre. One day at Down I made some flippant and derogatory remarks about the Committee which was prosecuting him. My father instantly turned on me in a fury of indignation and told me I had better go back to Southampton. The next morning at seven o'clock he came to my bedside and said how sorry he was that he had been so angry, and that he had not been able to sleep; and with a few kind words he left me.

What especially impressed me was his hatred of slavery. I remember his talking with horror of his sleepless nights when he could not keep out of his mind some incidents from Olmsted's *Journeys in the Slave States*, a book he had lately been reading; and in many of his letters to Professor Asa Gray he alludes to slavery with the utmost detestation.

I will not detain you with any recollections of his political opinions except to say that he was an ardent Liberal, and had a very great admiration for John Stuart Mill and Mr. Gladstone; at the same time he often deplored the almost total lack of interest in science in the House of Commons.

I should like, if I may be allowed, to refer to my childhood. I think when I was a child my father's health was, perhaps, at its worst, and there is no doubt that it threw a certain air of sadness over the life at Down, but whenever he was a trifle better his natural joyousness and gaiety flowed out, and what we very vividly remember is the delightful playmate he made for us as children. In later life he always treated us with entire trust and freedom, and all our opinions or views or desires he would discuss and consider almost as if we were his equals; and it is touching to recall,

though it almost makes one smile, the tone of admiration and gratitude with which he would acknowledge any little help we could give him in botanical or other matters. In later life he used to like to discuss any of the books or topics of the day, and it was always with modesty; he never seemed to think that his opinion was worth very much outside of his own special subjects. One of the great peculiarities I found in him was his immense reverence for the memory of his father; in all cases of health or illness, in many of the other conditions of life he would quote words of wisdom or advice of his father. To be present with him, when he happened to be well, at a small luncheon party with congenial friends, especially if a sympathetic woman were seated near him, will not be easily forgotten by anyone who has experienced it. He put every one at his ease, and talked and laughed in the gayest way, with lively banter and raillery that had a pleasant flavour of flattery, and touches of humour; but he always showed deference to his guests and a desire to bring any stranger into the conversation. I can well understand that anyone who had only met him under such circumstances might be led to disbelieve the accounts of his ill-health. In case any gentleman present has the desire to visit Down I should like to say that the place is just as quiet and intensely rural as it was 66 years ago, when my father first went there. I was staying at the house not long ago and found that the garden and the "sand walk" are practically unaltered, and the house is the same except in respect of furniture and fixtures: unfortunately the greenhouse in which he worked was so dilapidated that it had to be renewed. The railway station is within four miles of the house, and there is a good road to the village, and it is not the case, as has been stated by a German writer, that the house can only be reached by a mule track.

If I might be allowed a very few minutes more there is one other subject I would like to touch upon, and that is the very hackneyed subject of his loss of interest in poetry and art. I think in this way an unfair slur has been cast upon the influence of the study of natural history; this is no doubt to a great extent due to a want of realisation of the state of his health and of his nature.

When he first returned from the voyage on the "Beagle" he was entirely overwhelmed with the various duties connected with the publication of his journal, revising his collections and many other things of the kind, and he had no time for relaxation of any kind. In a very few years' time his health failed, and he retired in 1842 to Down. He then began the routine of life which continued for 40 years. Every morning he worked to the very end of his tether, so that he would often have to say in the middle of a sentence: "I am afraid I must leave off now." His work lasted for one and a-half to three hours; after that he had no strength left for any intellectual work during the day except a short time in the afternoon and evening, devoted to struggling with his old enemy, German, or some other scientific work he wanted to read; almost everything else was read aloud to him by my mother, who was the reader and the chooser.

As regards his imagination, I think that scenery, the beauty of flowers, and music and novels were sufficient to satisfy it. I remember he once said to me with a smile that he believed he could write a poem on *Drosera*, on which he was then working. I think he could never have written the last paragraph or two of the "Origin of Species" or the passage in the letter to my mother from Moor Park, in which he mentions that he fell asleep in the park and awoke to a chorus of birds, with squirrels in the trees and the laugh of a woodpecker, and he added that he did not care a penny how the birds or the beasts were made—I think he could never have written either of those two passages without a deep sense of the beauty and the poetry of the world and of life. As regards his interest in art, I think he did keep it up to a certain extent. I remember that at the end of his sofa on which he used to lie, he had a picture which he had bought himself and which he much enjoyed looking at: he also criticised very acutely a certain engraving. He used to laugh at modern decorative art and always preferred simple forms and pure colours. I remember once when he was staying with me at Southampton and when I and my wife were out of the house he went through the living-rooms and collected all the pieces

of china and chimney ornaments which he thought ugly, and on our return he led us with much laughter into his chamber of horrors. I am afraid I have detained you rather long and have trespassed on your sympathy, but I felt that this was a unique occasion and I was very anxious to show how deeply gratified I and my family are that we have been invited to take part in this celebration. I desire, my Lord Chancellor, to express to you, if I may do so without presumption or anything that is unfitting, our sincere thanks to the University for having inaugurated this celebration, and in the same spirit and with all deference to thank the many distinguished men who have come, many of them from great distances, to show their appreciation of the life-work of my father and to pay this tribute of respect to his memory. Also I should like to thank my friend Mr. Balfour and Dr. Arrhenius for their eloquent and interesting speeches.

I am sure my father would have said, though, perhaps, with a tone of apology in his voice, that if there was to be a celebration there could be no more fitting place than Cambridge. He always retained a love for Cambridge and a happy memory of his life here. It was the happiest and gayest period of his life, and it certainly did a great deal for the development of his mind, also it was the University of his old master and friend, Professor Henslow. As regards his academic studies, he used to speak of them with scant respect, and, perhaps, rather unfairly. It is curious to remember that the two subjects which he thought had done most to develop his mind were Paley's *Evidences of Christianity* and Euclid, both of which subjects are, I believe, now superseded as being obsolete. He valued more than any other honour the degree that was conferred on him here, and he spoke to me with pride and pleasure of walking, dressed in his scarlet gown, arm and arm with Dr. Cartmell, the Master of his old College. My Lord, I desire to thank the University most warmly for the great honour they have done me in allowing me to take part in this celebration, and I desire also on the part of all my family to thank the University very sincerely, and especially the Vice-Chancellor,

the Committee and the Secretaries, for the devotion with which they have carried out the arrangements for this celebration. I think no one who is not partly behind the scene can have any idea of the immense labour it has been, and I think that one and all we owe them a deep debt of gratitude. I desire once again to thank respectfully the gentlemen who have come in such numbers to pay this supreme tribute to my father's memory.

Professor E. B. POULTON said: Chancellor, your Excellencies, my Lords and Gentlemen, it is a proud position to be asked, as the representative of the University of Oxford, to propose, on this memorable occasion, the toast of "The University of Cambridge." It is with considerable diffidence that I attempt to fill it.

The greatness of a University may be most truly measured by the greatness of its sons, and by the force of the intellectual movements to which it has given rise. Mr. Balfour has spoken of the mighty names borne by sons of Cambridge. I trust that I shall enlist your sympathy in dwelling for a few moments on the University life of one of the greatest of these, the illustrous man whom we commemorate to-day, and also in attempting very briefly to show how his mature thoughts were received in both the ancient Universities of this country. It was in Cambridge, as you know well, that Charles Darwin came under the influence of Professor Henslow, and received his first inspiration in science. To Henslow he owed the possibility of sailing in the "Beagle," the greatest event, as he believed, in his whole scientific career—the one event which made all the rest possible. We must also remember how Darwin's interest in geology was aroused by Professor Sedgwick. It was on his return from a geological tour in North Wales with Sedgwick that Darwin found the letter from Henslow, offering him the post on the "Beagle." However lightly it was regarded by Darwin himself, there can be no doubt of the great depth of his debt to Cambridge.

In thinking over the names of the great men who have sprung from Cambridge University I have been led to reflect on the long harmonious years of sisterhood between our two ancient Universities, to remember how the thoughts that have

arisen in the one have been strengthened by resonance in the other, to call to mind the dependence of the greatest of men upon appreciation and sympathy.

Professor Turner has recently shown that the shy and sensitive genius of Newton, irritated by the correspondence with Hooke, might perhaps have been altogether lost to Science, were it not for the "immortal journey" made by Halley from Oxford to Cambridge in August, 1684.

Through the relationship and mutual interdependence between great minds we can also trace the influence of Oxford upon Darwin. Sir Ray Lankester spoke this morning of the debt which Lyell owed to the teaching of Buckland at Oxford, and how similar it was to the debt which Darwin owed to Henslow at Cambridge. But there is the strongest evidence, given in Darwin's own words, that he also owed a deep debt to Lyell, and therefore indirectly to Buckland and Oxford.

The first volume of the first edition of Lyell's "Principles of Geology" came out in 1830, just before Darwin started on the voyage of the "Beagle." He was advised by Henslow to read it, but on no account to believe the views therein contained; but Darwin was proud to remember that, at the very first opportunity of testing Lyell's reasoning, he recognised the infinite superiority of his teachings over those of all others. Many years later he wrote to L. Horner: "I always feel as if my books came half out of Lyell's brain . . . . . I have always thought that the great merit of the *Principles* was that it altered the whole tone of one's mind, and therefore that, when seeing a thing never seen by Lyell, one yet saw it partially through his eyes."

When did Darwin acknowledge his debt in this way? It was in August, 1844. In 1842 he had written the first brief account of his theory of evolution—that sketch which will now be for the first time in the hands of the public—that sketch of which, thanks to your generosity, a gift has been made to every guest whom you are welcoming to Cambridge, a work which I for my part look forward to reading with greater pleasure and greater interest than any book I have ever possessed. In 1844 Darwin had further elaborated this

sketch into a completed essay which he felt, whatever happened, would contain a sufficient account of his views; and on July 5th he made his "solemn and last request" to his wife, begging her, in the event of his death, to make arrangements for its publication. Only a few weeks after this, the psychological moment in his career, Darwin acknowledged his debt to Lyell; and when we consider how intensely Lyellian were the three lines of argument—two based on geographical distribution, and one on the relation between the most recent fossils and the forms now living in a country—by which Darwin was first convinced of the truth of evolution, we cannot avoid the conclusion that he was right in feeling the debt to be a very heavy one.

Although Darwin spoke of the three years at Cambridge as "the most joyful in my happy life," neither he nor Lyell appear to have thought that they owed very much to their Universities. In this respect I cannot but believe that both these great men were mistaken, and I think it would be interesting to enquire what would be likely to happen to such men as Darwin or Lyell if they entered Cambridge or Oxford at the present day.

I remember many years ago seeing in the papers among the news from India a message which read, with the quaint humour sometimes conferred by the abbreviation of telegraphic despatch:—"A new Saint has appeared in the northern provinces. The police are already on his track." In not dissimilar language we must own that when fresh genius appears at the Universities, the examiners are hard upon its track; and the effect of the pressure of examinations upon genius is apt to be similar to that of the removal of Pharoah's chariot wheels, so that they draw heavily. And with regard to Darwin's teacher Henslow, would the Henslow of to-day have the time and the opportunity to discover and to influence a student who did not care to read for Honours, but preferred to go into the country to collect beetles or into the Fens to collect plants? I do not ask these questions in any pessimistic spirit. There is no need for despair; for I believe that we are all aware of the danger of the excessive pressure of examinations at the present moment in both our ancient

Universities, and indeed throughout the whole of the British Empire. Cambridge has recently made great and important changes precisely in the direction I am indicating—changes tending to relieve this pressure; and we in Oxford have made alterations intended to produce the same effect. I believe we are likely to improve still further in this matter, and, without losing our modern efficiency, regain a greater freedom and greater elasticity, and a freer recognition of unusual powers—in these respects assimilating more closely to the Universities of three-quarters of a century ago.

Turning now to the ancient Universities as the lists where new ideas are compelled to undergo the trial of combat, we observe that the battle of evolution began with the dramatic encounter between Huxley and Wilberforce at the meeting of the British Association at Oxford, in 1860, and, according to Professor Newton, came to a close with the victory of the new teachings, only two years later, at the meeting of the same Association at Cambridge.

Whatever happened in the great arena furnished by the ancient Universities, there can be no doubt that for many years neither of them was at all willing to accept the conclusions of Darwin. One of the most strongly antagonistic letters received by Darwin was written by his old teacher, Sedgwick. Whewell kept the "Origin of Species" out of the Library at Trinity for some years; while Professor Westwood seriously proposed to the last Oxford University Commission the establishment of a permanent lectureship for the exposure of the fallacies of Darwinism.

Charles Darwin was offered the honorary degree of D.C.L. by Lord Salisbury, on his installation as Chancellor of the University of Oxford in 1870. After the lapse of nearly forty years there can be no harm in the candid admission that Lord Salisbury's list was opposed, although unsuccessfully, in the Hebdomadal Council. There is no evidence that any special exception was taken to the name of Darwin, but certain members of Council objected to the proportion of scientific men. The opposition was unsuccessful, the Chancellor's list was passed as a whole, and became the list of the Council; but, unfortunately for Oxford,

Darwin's health prevented him accepting the degree. Cambridge was happier, and Darwin became an honorary LL.D. of his own University in 1877.

And now there is one other subject to which I desire to allude before proposing the toast. What would we give to know as much about the life of Shakespeare and of Newton as we know about the life of Darwin? That we do happily possess a wide and detailed knowledge of the life of this great man we owe to one of his sons, who with a fine and delicate sense of pathos as well as performance has done his work, who has hurried in no way but has made every step secure, so that we can with the utmost confidence receive the great result as historical truth that will stand the test of time—a sure foundation on which the future can build. This great debt we owe. It is difficult to express our gratitude in adequate terms, but I should wish to say on behalf of those of us who are here as guests of the University of Cambridge that we look with a sympathy of the utmost depth upon the great ceremony that will take place to-morrow, when you will make the great exception and dignify with an honorary degree a resident Cambridge man.

I give you the toast of the "University of Cambridge," venerable yet ever young, the mother of great men. And I know when you honour it you will think of one great name, the noble, illustrious name of him who taught and inspired the world, and whom Cambridge may claim as her son.

The VICE-CHANCELLOR (the Master of Pembroke College) said: My Lord Chancellor and Gentlemen: I am deeply grateful, as I am sure all the resident members of Cambridge are, to Professor Poulton for the extremely interesting speech he has given us, and for the toast itself. From no lips would Cambridge men more gladly hear the toast of "Cambridge University" proposed than from the lips of an Oxford Professor. There are great similarities between the two Universities; and according to an account which reached me yesterday the similarities are on the increase. I do not know whether everyone present in this Hall to-day

knows that we were witnessing (many of them did witness) yesterday the extinction of a no longer useful species. The last of the Senior Wranglers took his degree yesterday, and one result of it, I am told, was this. A fair visitor to Cambridge, who was present at the spectacle and was told it was the last Senior Wrangler that would ever be seen, said: "Then there will be no difference in the future between Cambridge and Oxford." I need not tell you that we are proud beyond words of receiving at Cambridge this magnificent assemblage of men, whose greatness in many departments of science is recognised all over the world. The Hall in which we are assembled has never before been used publicly for any purpose at all. It is the inauguration of this new Examination Hall, and in spite of Professor Poulton's words about examinations I trust that the record which has been handed round the room, and which will for ever be preserved in Cambridge, will be an indication of the way in which this Hall was first employed, and that something of the memory of the distinguished occasion may still cling to these walls as long as they stand. At this hour of the evening I feel sure I shall consult your interests by not detaining you longer than to speak of two friends of Darwin's who would have been present to-night if they could. Allusion has already been made to the great delight we have experienced in seeing the venerable Sir Joseph Hooker walking about Cambridge as if he were 30 years younger than he is. But we were hoping to-night to have had Lord Avebury with us. He has been detained elsewhere by a sorrow to which I need refer no further. The other name is the memorable name of Alfred Russell Wallace. We hoped that we might have induced him even at his present age to come and receive an honorary degree at Cambridge. I believe he was asked at an earlier period; but we hoped that he might have been induced to receive a degree at this double anniversary of his great friend and collaborator; but the state of his health did not permit him to do so. I have a proposal to make. It does not originate from myself, but I think from the High Steward of the University, who has put into words the proposal which I will

read. It is that we should send to Alfred Russell Wallace the following telegram:—"The naturalists assembled at Cambridge for the Darwin Celebration cannot forget your share in the great work which they commemorate, and regret your inability to be present." There is but one word I regret in the telegram, though I shall send it as it stands. It is the word "naturalists," because I claim as a theologian—and I see representatives of law, music and letters and many other sciences and arts present—that only one spirit animates us all, and I should beg that we might be included in the term "naturalists."

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