

*The*  
**FARADAY**  
*Centenary*



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Chas. L. Day

## THE FARADAY CELEBRATION

ONE hundred years ago, Michael Faraday in the Laboratory of the Royal Institution, London, discovered the principle of electromagnetic induction. In this fundamental discovery lies the origin of the dynamo, the transformer, and the repeating coil—basic factors in the utilization of electricity for the purposes of man.

On the occasion of the centennial celebration of Faraday's discovery, Sir William Bragg gave the commemoration address in Queen's Hall, London, September 21, 1931. This address was broadcast in America, being transmitted across the ocean by radio.

An exhibition was opened in London on September 23rd, at which there were reproductions and illustrations of Faraday's actual experiments, prepared by the Royal Institution, together with a display of his chemical and electrochemical apparatus. There were also many exhibits by the great industries which exist today because of the practical application of Faraday's researches. Preceding the opening of the exhibition, General Smuts, recently elected President of the British Association for the Advancement of Science, gave an address.

On behalf of scientific and engineering societies in America, Dr. F. B. Jewett, President of the Bell Telephone Laboratories and Vice President of the American Telephone and Telegraph Company, speaking at Boston, Massachusetts, extended brief felicitations via transatlantic radio telephone and loud-speakers to those gathered in Albert Hall, London.

## GREETINGS FROM SCIENTIFIC SOCIETIES OF THE UNITED STATES

To you, Mr. Chairman, to General Smuts, and to all those who have gathered in London today to commemorate the centenary of Michael Faraday's great discoveries in the opening of the Faraday Exhibition, I bring the greetings of the scientific societies and the men and women of science of the United States. In particular, I have been asked to convey to you the felicitations of the following societies which were invited to participate in the functions you have organized to evidence the world-wide appreciation of the debt we owe to a great man:

The National Academy of Sciences  
The American Philosophical Society  
The American Association for the Advancement of Science  
The American Academy of Arts and Sciences of Boston  
The New York Academy of Sciences  
The American Mathematical Society  
The American Physical Society  
The American Chemical Society  
The Franklin Institute  
The American Institute of Electrical Engineers  
The American Society of Civil Engineers  
The American Society of Mechanical Engineers  
The American Engineering Council  
The Institute of Radio Engineers  
The American Electrochemical Society  
The United States Electrotechnical Committee  
The Illuminating Engineering Society  
The National Electric Light Association  
The Association of Edison Illuminating Companies  
The National Electrical Manufacturers Association  
The American National Committee of the World Power  
Conference  
The Association of Consulting Chemists and Chemical Engineers

Most, if not all, of these institutions are represented in London by their delegates. Neither they nor I can, however, express adequately the esteem in which Faraday and his achievements are held by tens of thousands of men who count themselves as his disciples.

Although I have formal authorization to speak only for my confreres in the United States, I feel quite safe in assuming in a degree to be the spokesman for men of science of whatever nationality. As such, I say to you of Britain that, although Faraday was of your blood, we of other lands yield you nothing in the measure of the respect and admiration in which we hold him. Go where you will in our institutions of learning, in the stately edifices we raise as homes for our scientific societies, or in the more prosaic housing of our scientific industrial establishments, and you will find always the evidence of our regard. For us he is ever a great simple man who enriched the world as few others have been privileged to enrich it.

In a way there is something peculiarly fitting in this tribute which I bring you and in the manner of its delivery. Involved in it is probably more of the fruit of all Faraday's works than can be encompassed in any other single happening in our modern world.

For me to sit here in Boston where Alexander Graham Bell made his great invention based on Faraday's discoveries and address you in London requires the application of something of all that men have learned in a hundred years in the fields to which Faraday opened the gates. Looking back across the years from the vantage point of our present achievements, it seems incredible that such vast things could have had such modest beginnings as those simple experiments of a simple kindly man. And yet, as we look forward through the eyes of a faith that has been trained to see distant things, it is clear that we have but embarked on the voyage.

While both you and I and those for whom I am speaking will long have passed to the great beyond, you may be assured that our descendants will join your descendants a hundred years hence when it comes time to commemorate another centenary of the man we are honoring today. For the present I can only reiterate that we in the far parts of the world are proud to have a spiritual part in your ceremonial.

FRANK B. JEWETT.

## EXCERPT FROM FARADAY'S DIARY

FACSIMILE AND TRANSCRIPT OF THE PAGE RECORDING  
THE DISCOVERY OF ELECTRO-MAGNETIC INDUCTION \*

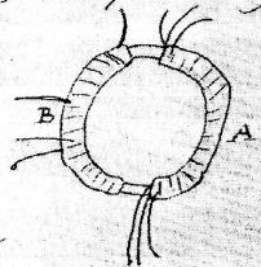
*Aug. 29th, 1831.*

1. Experiments on the production of Electricity from Magnetism, etc. etc.
2. Have had an iron ring made (soft iron), iron round and  $\frac{7}{8}$ th inches thick and ring 6 inches in external diameter. Wound many coils of copper wire round, one half the coils being separated by twine and calico—there were 3 lengths of wire each about 24 feet long and they could be connected as one length or used as separate lengths. By trial with a trough each was insulated from the other. Will call this side of the ring A. On the other side but separated by an interval was wound wire in two pieces together amounting to about 60 feet in length, the direction being as with the former coils; this side call B.
3. Charged a battery of 10 pr. plates 4 inches square. Made the coil on B side one coil and connected its extremities by a copper wire passing to a distance and just over a magnetic needle (3 feet from iron ring). Then connected the ends of one of the pieces on A side with battery; immediately a sensible effect on needle. It oscillated and settled at last in original position. On *breaking* connection of A side with Battery, again a disturbance of the needle.
4. Made all the wires on A side one coil and sent current from battery through the whole. Effect on needle much stronger than before.
5. The effect on the needle then but a very small part of that which the wire communicating directly with the battery could produce.

\* Courtesy of The Royal Institution of London, England.

Aug 29th 1831

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