

SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE
OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

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JUNE 6, 1902.

THE IONS OF ELECTROLYSIS.*

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THE subject of electrolysis must always have a special interest for the Royal Institution. It was here that Davy showed its practical value by his brilliant discovery of the metals of the alkalies and alkaline earths; and it was here that Faraday laid the foundation of the scientific discussion of electrolysis; it was here that with his singular experimental skill and clearness of insight he discovered and expounded the laws of electrolysis which will always be known by his name. It is therefore with a good deal of diffidence that I stand here to continue the story. And there is much to be said, for, like all good work, Faraday's work has been fruitful, and in consequence of it, as well as of the genius and skill of subsequent investigators, we now know much about electrolysis which Faraday did not and could not know.

The great difficulty left was that of the mechanism of electrolysis. That the cation and the positive electricity travel together towards the cathode, and that the negative electricity similarly travels with the anion towards the anode, and that on their arrival at the electrodes the electricity is delivered to the metallic conductor and the matter is set free to appear as the ion itself, or to break up, or to act on the elec-

* Lecture given before the Royal Institution of Great Britain.