

have ascertained, we will suppose, the laws of Electric Polarity; but we have then to ask, What is the relation of this Polarity to Chemical Composition? This was the great problem which, constantly present to the minds of electro-chemical inquirers, drew them on, with the promise of some deep and comprehensive insight into the mechanism of nature. Long tasks of research, though only subsidiary to this, were cheerfully undertaken. Thus Faraday<sup>1</sup> describes himself as compelled to set about satisfying himself of the identity of common, animal, and voltaic electricity, as "the decision of a doubtful point which interfered with the extension of his views, and destroyed the strictness of reasoning." Having established this identity, he proceeded with his grand undertaking of electro-chemical research.

The connexion of electrical currents with chemical action, though kept out of sight in the account we have hitherto given, was never forgotten by the experimenters; for, in fact, the modes in which electrical currents were excited, were chemical actions;—the action of acids and metals on each other in the voltaic trough, or in some other form. The dependence of the electrical effect on these chemical actions, and still more, the chemical actions produced by the agency of the poles of the circuit, had been carefully studied; and we must now relate with what success.

But in what terms shall we present this narration? We have spoken of chemical actions,—but what kind of actions are these? *Decomposition*; the *resolution* of compounds into their ingredients; the separation of *acids* from *bases*; the reduction of bodies to *simple elements*. These names open to us a new drama; they are words which belong to a different set of relations of things, a different train of scientific inductions, a different system of generalizations, from any with which we have hitherto been concerned. We must learn to understand these phrases, before we can advance in our history of human knowledge.

And how are we to learn the meaning of this collection of words? In what other language shall it be explained? In what terms shall we define these new expressions? To this we are compelled to reply, that we cannot translate these terms into any ordinary language;—that we cannot define them in any terms already familiar to us. Here, as in all other branches of knowledge, the meaning of words is to be sought in the progress of thought; the history of science is our dic-

---

<sup>1</sup> Dec. 1832. *Researches*, 266.