

*Awards of Medals.*

The Council has awarded the Copley Medal for the present year to Dr. G. S. OHM, of Nuremberg, for his researches into the laws of Electric Currents, contained in various memoirs published in Schweigger's Journal\*, Poggendorff's Annalen, and also in a separate work, entitled *Die Galvanische Kette Mathematisch Bearbeitet*, published at Berlin in the year 1827. In these works, Dr. Ohm has established, for the first time, the laws of the electric circuit; a subject of vast importance, and hitherto involved in the greatest uncertainty. He has shown that the usual vague distinctions of intensity and quantity have no foundation, and that all the explanations derived from these considerations are utterly erroneous. He has demonstrated, both theoretically and experimentally, that the action of a circuit is equal to the sum of the electro-motive forces divided by the sum of the resistances; and that whatever be the nature of the current, whether voltaic or thermo-electric, if this quotient be equal, the effect is the same. He has also shown the means of determining with accuracy the values of the separate resistances and electro-motive forces in the circuit. The light which these investigations has thrown on the theory of current electricity is very considerable; and although the labours of Ohm were, for more than ten years, neglected, (Fischner being the only author who, within that time, admitted and confirmed his views,) within the last five years, Gauss, Leng, Jacobi, Poggendorff, Henry, and many other eminent philosophers, have acknowledged the great value of his researches, and their obligations to him in conducting their own investigations. Had the works of Ohm been earlier known, and their value recognised, the industry of experimentalists would have been better rewarded. In this country those who have had most experience in researches in which voltaic agency is concerned, have borne the strongest testimony to the assistance they have derived from this source, and to the invariable accuracy with which the observed phenomena have corresponded with the theory of Ohm. This accordance, it may be observed, is altogether independent of the particular hypothesis which may be adopted as to the origin of electro-motive force; and obtains equally, whether that force is regarded as being derived from the contact of dissimilar metals, or as referable to chemical agency.

- \* 1. On the electric conductivity of the metals. (Schweigger's Journal, second series, vol. xiv.)
- 2. Experiments to discover the power of electro-magnetic multipliers. (Ibid. vol. xxv.)
- 3. Researches to ascertain the nature of unipolar conductors. (Ibid. vol. xxix.)
- 4. On hydro-electric currents. (Ibid. third series, vol. iii.)
- 5. Statement of facts destroying the relations which have been confusedly established between several galvanic properties, and particularly hydro-electric conductors. (Ibid. vol. v.)
- 6. Theory of galvanic currents. (Ibid. vol. vii.)