PHILOSOPHICAL
TRANSACTIONS,
of the
ROYAL SOCIETY
OF
LONDON.

VOL. LXXII. For the Year 1782.
PART I.

LONDON,

SOLD BY LOCKYER DAVIS, AND PETER ELMSLY,
PRINTERS TO THE ROYAL SOCIETY.

MDCCCLXXXII.
ADVERTISEMENT.

THE Committee appointed by the Royal Society to direct the publication of the Philosophical Transactions, take this opportunity to acquaint the Public, that it fully appears, as well from the council-books and journals of the Society, as from repeated declarations, which have been made in several former Transactions, that the printing of them was always, from time to time, the single act of the respective Secretaries, till the Forty-seventh Volume: the Society, as a body, never interesting themselves any further in their publication, than by occasionally recommending the revival of them to some of their Secretaries, when, from the particular circumstances of their affairs, the Transactions had happened for any length of time to be intermitted. And this seems principally to have been done with a view to satisfy the Public, that their usual meetings were then continued for the improvement of knowledge, and benefit of mankind, the great ends of their first institution by the Royal Charters, and which they have ever since steadily pursued.

But the Society, being of late years greatly inlarged, and their communications more numerous, it was thought advisable, that a Committee of their members should be appointed to reconsider the papers read before them, and select out of them such, as they should judge most proper for publication in the future Transactions; which was accordingly done upon the 26th of March 1752. And the grounds of their choice are, and will continue to be, the importance and singularity of the subjects, or the advantageous manner of treating them; without pretending to answer for the certainty of the facts, or propriety of the reasonings, contained in the several papers so published, which must still rest on the credit or judgment of their respective authors.
It is likewise necessary on this occasion to remark, that it is an established rule of the Society, to which they will always adhere, never to give their opinion, as a body, upon any subject, either of Nature or Art, that comes before them. And therefore the thanks, which are frequently proposed from the chair, to be given to the authors of such papers, as are read at their accustomed meetings, or to the persons through whose hands they receive them, are to be considered in no other light than as a matter of civility, in return for the respect shewn to the Society by those communications. The like also is to be said with regard to the several projects, inventions, and curiosities of various kinds, which are often exhibited to the Society; the authors whereof, or those who exhibit them, frequently take the liberty to report, and even to certify in the public newspapers, that they have met with the highest applause and approbation. And therefore it is hoped, that no regard will hereafter be paid to such reports, and public notices; which in some instances have been too lightly credited, to the dishonour of the Society.
I. RELAZIONE di una nuova Pioggia, scritta dal Conte de Gioeni abitante della 3a Regione dell’Etna; communicated by Sir William Hamilton, K. B. F. R. S. page 1

II. Nova experimenta Chemicæ quæ ad penitiorem Acidæ e Pin-guedine eruti cognitionem valere videntur. Scribæbat D. Laurentius Crellius, Gulielmo Huntero, M. D. p. 8


IV. Account of a monstrous Birth. In a Letter from John Torlefe, Esq. Chief of Anjingo, to the Hon. William Hornbey, Governor of Bombay; communicated by Dr. Lind, F. R. S. p. 44

V. Experiments with Chinefe Hemp Seed. In a Letter from Keane Fitzgerald, Esq. to Sir Joseph Banks, Bart. F. R. S. p. 44

VI. An Account of some Scoria from Iron Works, which resemble the vitrified Filaments described by Sir William Hamilton. In a Letter from Samuel More, Esq. to Sir Joseph Banks, Bart. p. 50

VII.
CONTENTS.

VII. An Extract of the Register of the Parish of Holy Cross, Salop, being a Third Decade of Years from Michaelmas 1770 to Michaelmas 1780, carefully digested in the following table. By the Rev. Mr. William Gorsuch, Vicar; communicated by Dr. Price, F. R. S. p. 53

VIII. An Experiment proposed for determining, by the Aberration of the fixed Stars, whether the Rays of Light, in pervading different Media, change their Velocity according to the Law which results from Sir Isaac Newton’s Ideas concerning the Cause of Refraction; and for ascertaining their Velocity in every Medium whose refractive Density is known. By Patrick Wilson, A. M. Assistant to Alexander Wilson, M. D. Professor of Practical Astronomy in the University of Glasgow; communicated by the Rev. Nevil Mulkelye, D. D. F. R. S. Astronomer Royal. p. 58

IX. Quantity of Rain which fell at Barrowby near Leeds. By George Lloyd, Esq. F. R. S. p. 71

X. Account of an improved Thermometer. By Mr. James Six; communicated by the Rev. Mr. Wollaston, F. R. S. p. 72

XI. On the Parallax of the Fixed Stars. By Mr. Herschel, F. R. S.; communicated by Sir Joseph Banks, Bart. P. R. S. p. 82

XII. Catalogue of Double Stars. By Mr. Herschel, F. R. S. communicated by Dr. Watson, Jun. p. 112

XIII. Description of a Lamp-Micrometer, and the Method of using it. By Mr. William Herschel, F. R. S. p. 163

XIV. A Paper to obviate some Doubts concerning the great Magnifying Powers used. By Mr. Herschel, F. R. S. p. 173


XVI.
CONTENTS

XVI. Del modo di render sensibilissima la più debole Elettricità sia Naturale, sia Artificiale. By Mr. Alexander Volta, Professor of Experimental Philosophy in Como, &c. &c.; communicated by the Right Hon. George Earl Cowper, F. R. S. p. 237

XVII. Abstract of a Register of the Barometer, Thermometer, and Rain, at Lyndon, in Rutland, 1780. By Thomas Barker, Esquire. p. 281

XVIII. Meteorological Journal kept at the House of the Royal Society, by Order of the President and Council. p. 285

APPENDIX

I. Account of a new Kind of Rain. Written by the Count di Gioeni, an Inhabitant of the 3d Region of Mount Etna; communicated by Sir William Hamilton, K. B. F. R. S. p. i

II. Of the Method of rendering very sensible the weakest Natural or Artificial Electricity. By Mr. Alexander Volta, Professor of Experimental Philosophy in Como, &c. &c.; communicated by the Right Hon. George Earl Cowper, F. R. S. p. vii
PHILOSOPHICAL TRANSACTIONS,
OF THE
ROYAL SOCIETY
OF
LONDON.

V.O.L. LXXII. For the Year 1782.
PART II.

LONDON,
SOLD BY LOCKYER DAVIS, AND PETER ELMSLY,
PRINTERS TO THE ROYAL SOCIETY.
MDCCCLXXXIII.
CONTENTS

OF

VOL. LXXII. PART II.

XIX. An Attempt to make a Thermometer for measuring the higher Degrees of Heat, from a red Heat up to the strongest that Vessels made of Clay can support. By Josiah Wedgwood; communicated by Sir Joseph Banks, Bart. P. R. S. Page 305


XXI. New Fundamental Experiments upon the Collision of Bodies. By Mr. John Smeaton, F. R. S. in a Letter to Sir Joseph Banks, Bart. P. R. S. p. 327

XXII. Proceedings relative to the Accident by Lightning at Heckingham. p. 335

XXIII. Account of the Organ of Hearing in Fish. By John Hunter, Esq. F. R. S. p. 379

XXIV. Account of a new Electrometer. By Mr. Abraham Brook; communicated by Sir Joseph Banks, Bart. P. R. S. p. 384

R r 2

XXVIII. A
CONTENTS.


XXVII. Some farther Considerations on the Influence of the Vegetable Kingdom on the Animal Creation. By John Ingen-houz, Counsellor to the Court, and Body Physician to the Emperor, F. R. S. &c. p. 426

XXVIII. A Microscopic Description of the Eyes of the Monoculus Polyphemus LINNEII. By Mr. William André, Surgeon; communicated by Sir Joseph Banks, Bart. P. R. S. p. 440