TRANSACTIONS

OF THE

ROYAL SOCIETY OF EDINBURGH.

VOL. I,



E D I N B U R G H:

PRINTED FOR J. DICKSON, BOOKSELLER TO THE ROYAL SOCIETY. SOLD IN LONDON BY T. CADELL, IN THE STRAND.

M.DCC.LXXXVIII.



TO THE K I N G.

SIR,

ed online by Cambridge University Pres

I AM defired by the Members of The Royal Society of Edinburgh, humbly to requeft Your MAJESTY to accept the first fruits of their Philosophical and Literary labours.

vi DEDICATION.

To Your MAJESTY, as the Founder and Patron of the Society, they, of right, fhould be prefented.

IF they shall be found worthy of the approbation of a MONARCH, who has diffinguished His Reign by the utility of His Infitutions for improving the elegant Arts, as well as by the splendour and success of His undertakings to extend the knowledge of Nature, The Royal Society of Edinburgh may hope to occupy a respectable place among those Bodies of learned Men, who, by their united efforts, have contributed,

DEDICATION. vii

buted, fo eminently, to the progrefs of Science and of Tafte in Europe. I am, with the higheft refpect,

Your MAJESTY's dutiful subject,

and devoted fervant,

BUCCLEUGH.

C O N T E N T S

OF THE

FIRST VOLUME.

PART I.*

HISTORY of the SOCIETY.

INTRODUCTION, -	•	-		I	Page 3.
Charter of the Society,		-	-		7.
Laws of the Society;	-	-			II.
Account of Experiments on Antim	iony, by	Mr James	Ruffell,	-	1б.
Dr Roebuck on the filling of Cor	m,	-	-		17.
The Earl of Dundonald on Sea-	Salt,		•	-	19.
Dr Anderson on Cast Iron,	-		-		26.
Cafe communicated by Dr Andre	ew Dui	ncan,	•		27.
Mr Wilfon on the Solar System,		-		•	28.
Dr Blane's Account of the Hurri	cane at	Barbadoes,	-	•	30.
Count de Windischgratz's Proble	em,	-	-		37,45.
Mr Smellie on Instinct,	-				39.
-	Ь				AP-

* N.B. PART I. comprehending the HISTORY, is contained under one fet of pages; and PART II. comprehending the PAPERS, is contained under two fets, viz. PAPERS of the PHYSICAL CLASS under the one, and PAPERS of the LITERARY CLASS under the other.

APPENDIX.

Members deceased,	-	-	Pa	ige 46.
I. Biographical Account of	William Lothia	n, D.D.	-	47•
II. Biographical Account of	' Sir George Çle	rk-Maxwell,	Baronet,	51.
III. Biographical Account of	f Matthew Stew	art, D.D.	-	57•
LIST of DONATIONS prefer	nted to the Roya	L SOCIETY of	Edinburgh	, 77.
LIST of all the MEMBERS	or Fellows of	the ROYAL	Society	of
Edinburgh,	-	-	-	83.
Office-Bearers of the Socie	тү, -	-		98.

PART II.

PAPERS READ BEFORE THE SOCIETY.

I.

PAPERS OF, THE PHYSICAL CLASS.

I. Experiments on the Motion of the Sap in Trees. By Dr Jol	nn Walke	er, 3.
II. The Theory of Rain. By Dr James Hutton,	- ·	41.
III. On the Causes which affect the Accuracy of Barometri	cal Mea-	
furements. By Mr John Playfair, -	-	87.
IV. On the Use of Negative Quantities in the Solution of Pro	oblems by	
Algeoratic Equations. By Mir William Greenfield,	-	131.
V. Experiments and Observations upon a remarkable Cold	which ac.	-
companies the Separation of Hoar Frost from a clear	Air. By	Y
Mr Patrick Willon,		146.
VI. An Account of the Method of making a Wine, called by the Koumifs; with Observations on its use in Medicine	he Tartar. 2. By D	s r
John Grieve,	-	178.
	,	VII.

VII. An Improvement of the Method of correct	Sting the observed Di-
stance of the Moon from the Sun or a	Fixed Star. By the

Reverend Mr Thomas Elliot,	-	Page	191.
VIII. Account of a remarkable Agitation of the V	Vaters of	Loch Tay :	
in a Letter from the Reverend Mr T	'homas F	Fleming to	
Mr John Playfair, -	-		200.
IX. Abstract of a Register of the Weather, kept a	at Branxh	olm for ten	
years. Communicated by the Duke of Bu	ccleugh,	-	203.
X. Theory of the Earth. By Dr James Hutto	n,	-	209.
XI. The Orbit and Motion of the Georgium Si	dus, dete	rmined di-	
rectly from Obfervations. By Mr John F	Robifon,	-	305.
XII. Abstract of a Register of the Weather, kept	t at Har	vkbill from	
1771 to 1776. Communicated by Mr Jo	hn Macg	owan,	333.

ÌI.

PAPERS OF THE LITERARY CLASS.

I. Effay on the Origin and Structure of the European Legislature	3.
By Mr Allan Maconochie. Part I.	3.
II. A Differtation to prove that Troy was not taken by the Greek	s.
By Mr John Maclaurin,	43.
III. An Ode on the Popular Superstitions of the Highlands. Writte	en
by the late Mr William Collins: And communicated by the	he
IV. An Estay upon the Principles of Historical Composition, with a Application of those Principles to the Writings of Tacitus.	63: an 3v
Mr John Hill. Part I.	76.
V. On the Dramatic or Ancient Form of Historical Composition. I	^B y
Mr William Richardson,	99•
VI. A Grammatical Effay on the Nature, Import and Effect of certain	in
Conjunctions; particularly the Greek ΔE . By Mr John Hun	n-
ter, -	113.
	VII.

- VII. Estay on the Origin and Structure of the European Legislatures. By Mr Allan Maconochie. Part II. - Page 135.
- VIII. An Essay upon the Principles of Historical Composition, with an Application of those Principles to the Writings of Tacitus.
 By Mr John Hill. Part II.

*** The Society is indebted to Robert Adam, Esq; for the Design of the engraved Frontispiece.

TRANS-