
Contents

List of Illustrations	xv
Preface	xxi
List of Footnote Abbreviations	xxvii
Dramatis Personae	xxix

Part I Setting the Scene

Chapter 1	Scientific Research under a Historical Microscope	3
	1.1 Introducing the Devonian Controversy	3
	1.2 Watching the Natives at Work	5
	1.3 Applying a Historical Microscope	7
	1.4 Research as Skilled Craftsmanship	9
	1.5 The Revival of Narrative	11
	1.6 Beyond Earshot of the Natives	14
Chapter 2	Arenas of Gentlemanly Debate	17
	2.1 Gentlemanly Specialists in Geology	17
	2.2 The Geological Society	18
	2.3 The Société Géologique	27
	2.4 The British Association	30
	2.5 The Art of Letter Writing	34
	2.6 The Romance of Fieldwork	37
Chapter 3	Unraveling the Earth	42
	3.1 Creation and Causation	42
	3.2 Sections and Sequences	46
	3.3 Structures and Correlations	49
	3.4 Defining a Global Sequence	54

Part II The Plot Unfolds

Chapter 4	Prelude: Unraveling the Greywacke	63
	4.1 A Father Figure for Geology (1831)	63
	4.2 Sedgwick's Greywacke Grindstone (1831)	69
	4.3 Murchison Gets out of Lyell's Shadow (1831–33)	73
	4.4 Weaver and the Irish Question (1832–33)	78
	4.5 The Proprietor of the Welsh Borderland (Summer 1833 to October 1834)	82
	4.6 De la Beche and the Devonshire Survey (1834)	87

Chapter 5	The Controversy Goes Public	93
	5.1 De la Beche's "Interesting" Fossil Plants (October and November 1834)	93
	5.2 Preconceived Opinions versus Facts (December 1834)	99
	5.3 De la Beche Springs to His Own Defense (December 1834)	103
	5.4 Restoring a Gentlemanly Civility (December 1834 and January 1835)	107
	5.5 Marshalling Support behind the Scenes (December 1834 and January 1835)	113
	5.6 Weaver Recants His Heresy (January and February 1835)	116
	5.7 Phillips Interprets the Anomaly (February to April 1835)	121
	5.8 De la Beche's Livelihood Secured (May to August 1835)	123
Chapter 6	Taming the Transition	127
	6.1 Murchison Defines the Silurian System (June and July 1835)	127
	6.2 The Dublin Festival of Science (July and August 1835)	130
	6.3 Anglo-Belgian Correlations (September 1835)	135
	6.4 Murchison's Surreptitious Fieldwork (September and October 1835)	141
	6.5 The Greywacke Defended and Attacked (November 1835 to February 1836)	143
	6.6 Successes for the Fossil Criterion (February to April 1836)	146
Chapter 7	Devonshire Put to the Test	149
	7.1 Preparing an Invasion (February to June 1836)	149
	7.2 The Devonshire Campaign (July and August 1836)	151
	7.3 The Grand Attack at Bristol (August 1836)	159
	7.4 Sedgwick Explores the Cambrian in Devon (September and October 1836)	170
	7.5 Reproofs and Recriminations (September to November 1836)	173
	7.6 De la Beche Consolidates His Defense (October and November 1836)	177
Chapter 8	Interpretative Maneuvers	183
	8.1 Preparing a New Attack (December 1836 and January 1837)	183
	8.2 Problems at the Eleventh Hour (January 1837)	186
	8.3 <i>Hamlet</i> without the Prince (February 1837)	192
	8.4 Lyell Saves the Phenomena (February 1837)	195

8.5	The Spread of Ugly Rumors (February to April 1837)	201
8.6	The Ambiguities of Critical Evidence (March to May 1837)	204
8.7	A Damp Squib on Devonshire (May and June 1837)	210
Chapter 9	Shifting the Argument	215
9.1	Putting a Provincial in His Place (July to September 1837)	215
9.2	The Provincials Move Center Stage (October and November 1837)	220
9.3	Austen's Enigmatic Fossils (December 1837)	224
9.4	Weaver Reenters the Lists (January 1838)	230
9.5	The Judgment of a Universal Scientist (February 1838)	233
9.6	Expanding the Carboniferous in Devon (January to May 1838)	235
9.7	Fighting Back for the Greywacke (March and April 1838)	238
9.8	The Disappointment of the Cambrian System (May to July 1838)	242
9.9	Pressure on the Cambrian of Devon (July 1838)	246
Chapter 10	Big Books in Collision	250
10.1	A Surfeit of Silurianism (August 1838)	250
10.2	Continental Silurianism (September to November 1838)	253
10.3	Encapsulating a Consensus (December 1838)	257
10.4	Murchison's Magnum Opus (January 1839)	259
10.5	De la Beche's <i>Report</i> (February 1839)	265
10.6	A Priority Dispute Flares Up (February and March 1839)	268
10.7	Continental Itineraries (February to April 1839)	272
Chapter 11	The Devonian System Reborn	276
11.1	Old Red in Devon? (February and March 1839)	276
11.2	The Devonian System Redefined (April 1839)	280
11.3	First Reactions to the Devonian (April 1839)	287
11.4	Williams Provides a Peg for the Argument (April 1839)	289
11.5	Consolidating the Devonian (April and May 1839)	294
Chapter 12	Conquering the Continent	301
12.1	Murchison Opens the Rhineland Campaign (May and June 1839)	301
12.2	Sedgwick Joins the Campaign (June to August 1839)	308
12.3	Establishing the Devonian at Home (June to August 1839)	312

12.4	The Devonian Vanishes on the Continent (August and September 1839)	319
12.5	A Triumvirate in the Rhineland (September and October 1839)	324
12.6	A Postmortem on the Devonian (October to December 1839)	329
12.7	An Interlude on Devonshire (September 1839 to January 1840)	332
12.8	The Devonian Redivivus (December 1839 to February 1840)	336
Chapter 13	Creating a Consensus	343
13.1	Devonshire in a New Dress (February 1840)	343
13.2	A Geological Enclosure Act (February and March 1840)	346
13.3	Setting the Record Straight (March to May 1840)	352
13.4	Resolving Russia (May to September 1840)	358
13.5	Devonshire on the Sidelines (May to September 1840)	361
13.6	From Moscow to New York (September 1840 to April 1841)	364
Chapter 14	The Devonian Naturalized	369
14.1	Mopping Up Devonshire (April to August 1841)	369
14.2	From the Urals to Niagara (April to October 1841)	376
14.3	Securing Murchison's Monument (November 1841 to February 1842)	381
14.4	Murchison's Apotheosis (December 1841 to November 1842)	386
14.5	Completing the Consensus (1842 to 1847)	392
 Part III The Action Analyzed		
Chapter 15	The Shape of the Controversy	401
15.1	A First Approximation	401
15.2	A Coarse-Grained Analysis	405
15.3	A Pattern of Trajectories	411
15.4	Mapping the Field of Competence	418
15.5	Locating the Core Set	426
Chapter 16	The Shaping of Natural Knowledge	429
16.1	The Continuum of Relative Privacy	429
16.2	Contests on the Agonistic Field	435
16.3	Persuasive Powers and Social Interests	438
16.4	The Transformation of a Paradigm	445
16.5	Social Construction and Natural Knowledge	450

Appendices

- A. "And They Lived Happily Ever After" 457
- B. The Devonian Modernized 458
- C. Note on Prices and Incomes 460

Bibliography

- Manuscript Sources 463
- Printed Sources 466
- Secondary References 476

Index 485

