

Vitalizing Nature in the Enlightenment

PETER HANNS REILL

University of California Press

BERKELEY LOS ANGELES LONDON

Contents

| | |
|---|-----|
| <i>Acknowledgments</i> | ix |
| INTRODUCTION | 1 |
| PROLOGUE: THE HUMBOLDT BROTHERS CONFRONT NATURE'S SUBLIMITY | 17 |
| The Primordial Scene | 17 |
| Nature's Ambiguity | 25 |
| The Problem Posed | 28 |
| 1. STORMING "THE TEMPLE OF ERROR": BUFFON, THE <i>HISTORIE NATURELLE</i> , AND THE MIDCENTURY ORIGINS OF ENLIGHTENMENT VITALISM | 33 |
| Natural Philosophy and the Mathematical Description of Nature | 33 |
| Toward a Redefinition of Organic Matter | 42 |
| System, Method, and Understanding | 47 |
| Preformation, Epigenesis, and the Historization of Nature | 56 |
| 2. LEARNING TO "READ THE BOOK OF NATURE": VITALIZING CHEMISTRY IN THE LATE ENLIGHTENMENT | 71 |
| Creating a New Language of Chemistry | 71 |
| The Grammar and Vocabulary of the New Language of Chemistry | 77 |
| Chemistry, Heat, and Life | 91 |
| Enlightenment Vitalism and the Chemical Revolution | 101 |
| 3. "WITHIN THE CIRCLE OF ORGANIZED LIFE" | 119 |
| Between Mechanism and Animism | 119 |
| Organization, Conjunction, Sympathy, and Nature's Economy | 135 |
| Elaborating the Vital Economy's Activities | 143 |

| | | |
|----|---|-----|
| 4. | THE METAMORPHOSES OF CHANGE | 159 |
| | Generation, Reproduction, and the Economy of Nature | 159 |
| | Death, Dying, and Resurrection | 171 |
| | Ontogeny and Phylogeny in Enlightenment Vitalism | 182 |
| 5. | FROM ENLIGHTENMENT VITALISM TO ROMANTIC <i>NATURPHILOSOPHIE</i> | 199 |
| | Romantic <i>Naturphilosophie</i> : A New “Daring Adventure of Reason” | 199 |
| | “Geometria est Historia”: Toward a New <i>Universal Mathesis</i> | 203 |
| | “Nature Is Visible Mind, Mind Invisible Nature”: From Harmony to Identity | 209 |
| | “Being Itself Is Activity”: From Change to Process | 214 |
| | The Scientific Construction of Gender in the Late Enlightenment and Romantic <i>Naturphilosophie</i> | 220 |
| | EPILOGUE: FROM THE FOOT OF CHIMBORAZO TO THE FLATLANDS OF EUROPE | 237 |
| | Alexander von Humboldt’s Dilemma | 237 |
| | Reprise: What Is Enlightenment? What Isn’t Enlightenment? | 251 |
| | Notes | 257 |
| | Bibliography | 327 |
| | Index | 367 |