TABLE OF CONTENTS

PREFACE XV

EDITOR'S INTRODUCTION 1
I. Logic as a Theory of Science 1
II. Propositions and Sentences 3
III. Ideas in Themselves 5
IV. The Reduction of Sentences 8
V. Judgment and Knowledge 11
VI. Intuition and Concept 14
VII. The Notion of Variation 16
VIII. Analytic and Synthetic Propositions 18
IX. Consistency and Derivability 20
X. Degree of Validity and Probability 22
XI. The Objective Hierarchy of Propositions 23
XII. Set and Continuum 25
XIII. Infinite Sets 26
XIV. Natural Numbers 28
XV. Conclusion 30

PART A

A SELECTION FROM THE *WISSENSCHAFTSLEHRE*

(Sulzbach 1837, Leipzig 1914–31)

['+A' ('−A') means including (excluding) the *Anmerkung(en)*]

Volume One

INTRODUCTION 35
§ 1. What the Author Understands by Theory of Science 35
§ 2. Justification of this Concept and Its Designation 38
§ 15. Plan for Carrying out Logic According to the Author's Understanding 41

PART ONE / THEORY OF FUNDAMENTAL TRUTHS

CHAPTER ONE / ON THE EXISTENCE OF TRUTHS IN THEMSELVES 47

§ 19. What the Author Understands by a Proposition in Itself (+A) 47

§ 21. That Others Have Already Made Use of this Concept 51

§ 24. Various Meanings of the Words: True und Truth (−A) 53

§ 25. What the Author Understands by Truths in Themselves 56

§ 26. Differentiation of this Concept from Some that Are Related to It 59

§ 30. The Meaning of the Claim that there Are Truths in Themselves 60

§ 31. Proof that there Is At Least One Truth in Itself (+A) 61

§ 32. Proof that there Are a Number of Truths, Indeed an Infinite Number (+A) 62

CHAPTER TWO / ON THE POSSIBILITY OF KNOWING THE TRUTH 64

§ 34. What the Author Understands by a Judgment (−A) 64

§ 35. Examination of Other Definitions of this Concept (Subsection 5) 65

§ 36. What Would the Author Understand by a Cognition? 67

§ 40. How It Can Be Proved that We Know At Least One Truth 67

§ 41. How It Can Be Proved that We Are Capable of Knowing an Indefinitely Large Number of Truths (+A) 70

PART TWO / THEORY OF ELEMENTS

§ 46. Purpose, Content and Sections of this Part 75

CHAPTER ONE / ON IDEAS IN THEMSELVES 77

§ 48. What the Author Understands by Ideas in Themselves and by Ideas Possessed 77

§ 49. Differentiation of the Concept of an Idea in Itself from Some Related Concepts 79

§ 50. Justification of this Concept 81

§ 51. That this Concept Is Already Encountered in Others (Subsection 1) 83

§ 54. Ideas in Themselves Have No Existence 85

§ 55. Ideas in Themselves Are neither True nor False (−A) 86

§ 56. Parts and Content of an Idea in Itself (−A) 87

§ 58. Closer Examination of the Most Notable Ways in which Ideas Are Compounded 88
§ 60. Concrete and Abstract Ideas (−A) 92
§ 61. There Must also Be Simple Ideas 93
§ 63. Are the Parts of an Idea the Same as the Ideas of the Parts of Its Object? 95
§ 64. Are the Parts of an Idea the Same as the Ideas of Its Object's Properties? (−A) 97
§ 66. The Concept of the Extension of an Idea (−A) 103
§ 67. There Are also Objectless Ideas (+A) 106
§ 68. There Are also Ideas that Have Only a Finite Set of Objects, and Singular Ideas as Well (−A) 107
§ 70. Real and Imaginary Ideas (+A) 109
§ 71. Two Consequences (+A) 113
§ 72. What the Author Understands by Intuitions (−A) 114
§ 73. What Is It that the Author Calls Concepts and Mixed Ideas? 116
§ 75. Some Remarks on the Difference between the Ways in which Intuitions and Concepts Are Designated 117
§ 78. Differences among Concepts with Respect to Content and Extension (+A 1–2, to p. 356, l. 12, of the German text) 121
§ 80. Ideas of Qualities and Relations (−A) 124
§ 84. Concepts of Sets and Sums (−A) 128
§ 86. Concepts of Unity, Plurality and Universality 129
§ 87. Concepts of Quantity, Both Finite and Infinite (−A) 131
§ 90. Symbolic Ideas (−A) 132
§ 91. There Are No Two Completely Identical Ideas. Similar Ideas (+A 1–2) 133
§ 92. Relations among Ideas with Respect to Their Content (−A) 136
§ 93. Relations among Ideas with Respect to Their Breadth (+A) 138
§ 94. Relations among Ideas with Respect to Their Objects (−A) 141
§ 95. Special Kinds of Compatibility: (a) Inclusion (+A) 143
§ 96. (b) The Relationship of Mutual Inclusion, or Equivalence (−A) 144
§ 97. (c) The Relationship of Subordination (−A) 149

§ 98. (d) The Relationship of Intersection or Concatenation (−A) 151
§ 102. No Finite Set of Standards Is Sufficient to Measure the Breadths of All Ideas 154
§ 103. Particular Kinds of Incompatibility among Ideas (−A) 156
§ 108. How the Relationships Discussed in §§93ff Can Be Extended to Objectless Ideas as Well (+A) 159
§ 120. On the Rule that Content and Extension Stand in an Inverse Relationship 161

Volume Two

CHAPTER TWO / ON PROPOSITIONS IN THEMSELVES 167
§ 122. No Proposition in Itself Is an Existent 167
§ 123. Every Proposition Necessarily Contains Several Ideas. Its Content (−A) 167
§ 124. Every Proposition Is Capable of Being Considered as a Component of Another Proposition, or Even of a Mere Idea 168
§ 125. Every Proposition Is either True Or False and True or False in All Times and at All Places 169
§ 126. Three Components that Are Undeniably Found in a Large Number of Propositions 169
§ 127. Which Components Does the Author Assume for All Propositions? 170
§ 130. The Extension of a Proposition Is Always the Same as the Extension of Its Base (−A) 177
§ 133. Conceptual Propositions and Empirical Propositions (+A) 178
§ 137. Various Propositions about Ideas: (a) Assertions of the Denotative Character of an Idea 182
§ 138. (b) Denials of the Denotative Character of an Idea (−A) 184
§ 139. (c) Further Propositions that Define the Extension of an Idea More Closely 185
§ 146. Objectless and Denotative, Singular and General Propositions 187
§ 147. The Concept of the Validity of a Proposition 187
§ 148. Analytic and Synthetic Propositions (+A) 192

§ 154. Compatible and Incompatible Propositions (−A) 198
§ 155. Special Types of Compatibility: (a) The Relation of Derivability (+A) 204
§ 156. (b) The Relation of Equivalence (+A) 216
§ 157. (c) The Relationship of Subordination 222
§ 158. (d) The Relationship of Concatenation 224
§ 159. Special Types of Incompatibility (−A) 227
§ 160. Relations among Propositions Resulting from Consideration of How Many True or False Propositions there Are in a Set (+A) 237
§ 161. The Relationship of Comparative Validity or the Probability of a Proposition with Respect to Other Propositions (+A2 from p. 189, l. 10, of the German text) 244
§ 162. The Relation of Ground and Consequence 256
§ 167. Propositions which Assert a Relation of Probability 258
§ 168. Propositions which Assert a Relation of Ground and Consequence (Subsection 3) 258
§ 174. Propositions of the Form: *n A* are *B* (+A) 259
§ 179. Propositions with If and Then (+A) 259
§ 182. Propositions Containing the Concept of Necessity, Possibility or Contingency (−A) 262

CHAPTER THREE / ON TRUE PROPOSITIONS 266
§ 198. The Concept of a Ground-Consequence Relationship between Truths (−A) 266
§ 199. Can the Inference Rule also Be Counted among the Partial Grounds of a Conclusion? (−A) 268
§ 200. Is the Relation of Ground and Consequence Subordinate to that of Derivability? 269
§ 203. Only Truths Are Related as Ground and Consequence (Subsection 1) 271
§ 204. Can Something Be Ground and Consequence of Itself? (−A) 272
§ 205. Are Ground and Consequence in Each Case only a Single Truth or a Set of Several Truths? 273
§ 206. Can One Ground Have a Variety of Consequences or One Consequence a Variety of Grounds? 274

§ 207. Can One Regard the Consequence of a Part as the Consequence of the Whole? 275
§ 209. Can a Truth or a Whole Set of Truths Be both Ground and Consequence in One and the Same Relation? (−A) 276
§ 210. Can a Set of Several Grounds Be Regarded as the Ground of a Set of Several Consequences? 278
§ 211. Is there a Rank Order among the Parts of the Ground or of the Consequence? 279
§ 213. Can the Consequence of the Consequence Be Considered a Consequence of the Ground? (−A) 280
§ 214. Can Every Truth Be Regarded not only as Ground but also as Consequence of Others? (−A) 282
§ 215. Is there More than One Basic Truth? (+A) 283
§ 216. Does the Process of Mounting up from Consequences to Its Grounds Have to Come to an End for Every Given Truth? 283
§ 217. What the Author Understands by Subsidiary Truths 284
§ 218. No Truth Can Be a Subsidiary Truth of Itself 285
§ 220. What Kind of Pictorial Representation Can Be Given for the Relationship that Prevails between Truths with Respect to Ground and Consequence? 285
§ 221. Some Criteria for Determining whether Certain Truths Have the Relationship of Dependence (+A) 288

CHAPTER FOUR / ON INFERENCES 293
§ 223. Content and Purpose of this Chapter (+A) 293
§ 224. Some Rules by which Conclusions to Given Premises Can Be Sought out 296
§ 243. Continuation [Assertions about Numbers] 299

Volume Three

PART THREE / THEORY OF KNOWLEDGE

CHAPTER ONE / ON IDEAS 305
§ 270. Concept of an Idea in the Subjective Sense (−A) 305
§ 271. There Is an Idea in Itself Attached to Every Subjective Idea (+A) 306

§ 272. Every Subjective Idea Is Something Real, but only as an Attribute of a Substance 307
§ 285. Naming Our Ideas (Subsections 1–2) 308

CHAPTER TWO / ON JUDGMENTS 311
§ 290. The Concept of a Judgment 311
§ 291. Some Properties that Belong to All Judgments (−A) 311
§ 292. What We Call a Single Judgment, and when We Say of Several Judgments that They Are Like or Unlike 312
§ 294. Classifications of Judgments that Arise from Classifications of Propositions with the Same Names 313
§ 298. Does Every Judgment Leave a Trace of Itself behind after It Has Passed away? 313
§ 300. Mediation of a Judgment by Other Judgments (−A) 314
§ 303. How We Do Arrive at Our Most General Empirical Judgments and how We Can Arrive at Them (−A) 322
§ 306. Survey of the Most Noteworthy Activities and States of Our Mind that Concern the Business of Making Judgments (−A) 335

CHAPTER THREE / THE RELATIONSHIP OF OUR JUDGMENTS TO THE TRUTH 339
§ 307. More Precise Definition of the Concepts: Knowledge, Ignorance and Error (−A) 339
§ 309. What Is the Basis of the Possibility of Error and what Circumstances Promote Our Errors' Occurrence? 341
§ 314. Are there Definite Limits to Our Capacity for Knowledge? (+A) 346

Volume Four

PART FIVE / THEORY OF SCIENCE PROPER

CHAPTER ONE / GENERAL THEORY 357
§ 395. The Supreme Principle of All Theory of Science (−A) 357
§ 401. A Proper Scholarly Treatise Must also Indicate the Objective Connection between Truths, as far as Possible 359

CHAPTER FOUR / ON THE PROPOSITIONS WHICH SHOULD OCCUR IN A SCHOLARLY TREATISE 362

§ 525. Explaining a Truth's Objective Ground (−A) 362
§ 530. Proofs by Reduction to Absurdity (Subsection 1) 362
§ 557. How to Prove a Statement Specifying the Composition of an Idea 364
§ 558. How the Proof that a Definition of a Given Proposition Is Correct Must Be Carried out (−A) 366

PART B

EXCERPTS FROM BOLZANO'S CORRESPONDENCE

Letter to J. E. Seidel, 26 January 1833 (Manuscript in Krajské muzeum v Ceských Budějovicích; transcription by Jan Berg) 371
Letter to M. J. Fesl, 8 February 1834 (Manuscript in Literární archív Památníku národního písemnictví v Praze; published in *Wissenschaft und Religion im Vormärz. Der Briefwechsel Bernard Bolzanos mit Michael Josef Fesl* (ed. by E. Winter and W. Zeil), Berlin 1965, p. 58, l. 4 – l. 3 f.b.) 373
Letter to F. Exner, 22 November 1834 (Manuscript in Österreichische Nationalbibliothek Wien; published in *Der Briefwechsel B. Bolzano's mit F. Exner* (ed. by E. Winter), *Bernard Bolzano's Schriften*, vol. 4, Prague 1935, p. 62, l. 32 – p. 67, l. 38) 374
Letter to J. P. Romang, 1 May 1847 (Manuscript in the same archive as Letter to M. J. Fesl (above); published in *Philosophisches Jahrbuch der Görresgesellschaft*, vol. 51, Fulda 1938, p. 50, l. 5f.b. – p. 53, l. 16) 379
Letter to R. Zimmermann, 9 March 1848 (Manuscript in the same archive as Letter to M. J. Fesl (above); transcription by Jan Berg) 381
Letter to F. Příhonský, 10 March 1848 (Manuscript in the same archive as Letter to M. J. Fesl (above); published in E. Winter: *Der Böhmische Vormärz in Briefen B. Bolzanos an F. Přihonský*, Berlin 1956, p. 285, l. 1 – l. 16) 382

BIBLIOGRAPHY 385
A. Works by Bolzano 385
1. Works on Logic, Epistemology and Methodology of Science 385
2. Works on Mathematics 385
B. Works on Bolzano 386

1. General Works 386
2. Biographies 386
3. Logic 386
4. Mathematics 387
5. Metaphysics 387
6. Theology 387
7. Social Philosophy 387
8. Aesthetics 388
C. Works referred to by Bolzano in the selections from the *Wissenschaftslehre* 388

NAME INDEX 391

SUBJECT INDEX 393