TABLE OF CONTENTS

	Page
Chapter VIII Formal Calculus	1
1. Various Meanings of the Term "Convergence"	1
2. Series Analogous to the Stirling Series	2
3. Calculation of the Series	4
Chapter IX Methods of Newcomb and Lindstedt	13
1. Historical Background	13
2. Discussion of the Method	14
3. Various Forms of Series	20
4. Direct Calculation of the Series	23
5. Comparison with the Newcomb Method	29
Chapter X Application to the Study of Secular Variations	32
1. Discussion of the Question	32
2. New Change of Variables	33
3. Application of the Method of Chapter IX	37
Chapter XI Application to the Three-Body Problem	40
1. Difficulty of the Problem	40
2. Extension of the Method of Chapter IX to Certain Singular Cases	41
3. Application to the Three-Body Problem	47
4. Change of Variables	48
5. Case of Plane Orbits	50
6. Study of a Particular Integral	56
7. Form of the Expansions	58
8. General Case of the Three-Body Problem	60
Chapter XII Application to Orbits	64
1. Discussion of the Difficulties Involved	64
2. Solution of the Difficulty	71
Chapter XIII Divergence of the Lindstedt Series	82
1. Discussion of the Series (3)	82
2. Discussion of the Series (2)	86
3. Comparison with the Old Methods	91
Chapter XIV Direct Calculation of the Series	97
1. Application to the Three-Body Problem	109

2. Diverse Properties 118
3. Noteworthy Particular Cases 130
4. Conclusions 135

Chapter XV Other Methods of Direct Calculus 137

1. Problem of Section 125 137
2. Another Example 140
3. Problem of Section 134 147
4. Three-Body Problem 155

Chapter XVI Gyldén Methods 176

1. Reduction of the Equations 184
2. Intermediate Orbit 192
3. Absolute Orbit 194

Chapter XVII Case of the Linear Equations 197

1. Study of the Gyldén Equation 197
2. Jacobi Method 214
3. Gyldén Method 217
4. Bruns Method 219
5. Lindstedt Method 221
6. Hill Method 225
7. Application of the Hadamard Theorem 230
8. Miscellaneous Remarks 238
9. Extension of the Preceding Results 239

Chapter XVIII Case of Nonlinear Equations 243

1. Equations with Second Member 243
2. Equation of the Evection 246
3. Variational Equation 262
4. Summary 268
5. Generalization of Periodic Solutions 268

Chapter XIX Bohlin Methods 272

1. Delaunay Method 272
2. Bohlin Method 296
3. Case of Libration 304
4. Limiting Case 316
5. Correlation with the Series of Section 125 330
6. Divergence of the Series 334

Chapter XX Bohlin Series 340

1. Case of Libration 344
2. Limiting Case 349

Page

3. Comparison with the Series of Section 127 361

Chapter XXI Extension of the Bohlin Method 369

1. Extension to the Problem of Section 134 369
2. Extension to the Three-Body Problem 377
3. Discussion of the Series 380
4. Second Method 384
5. Case of Libration 388
6. Divergence of the Series 391

References 413