Table of Contents

Foreword 1

The first physics council **11**

Chapter 1. A very unlikely "Council" **13**
1.1 A quite surprising invitation 13
1.2 Novelty of the project 15
1.3 Ernest Solvay: industrial, scientific patron and investigator 17
1.4 The quantum theory 25
1.5 How Nernst discovered Einstein's genius 32
1.6 Nernst's great dilemma 34

Chapter 2. An unprecedented project **37**
2.1 The idea of a Council 37
2.2 A providential man: Ernest Solvay 39
2.3 Nernst in action 41
2.4 A glimpse behind the scenes 46
2.5 Evolution of the project. 49
2.6 Ostwald's project for chemistry 58
2.7 Back to the Council 63
2.8 The first Council on Physics 68
2.9 Council results 78

Unexpected consequences of the council **93**

Chapter 3. A game of musical chairs. **95**
3.1 Impact on Einstein's career: from Prague to Zurich 95
3.2 The imbroglio of Lorentz's succession 99
3.3 Second impact of the Council on Einstein's career: from Zurich to Berlin 107

Chapter 4. Foundation of the International Solvay Institute for Physics **113**
4.1 The Lorentz proposal 113
4.2 The Institute's Statutes. 116
4.3 Constitution of the International Scientific Committee (ISC). 122
4.4 Birth of the International Institute for Physics. 123

Chapter 5. The second Physics Council. 139
5.1 Members and reports 139
5.2 Highlights of "Solvay II" 140
5.3 Echoes and consequences of Solvay II 146

Chapter 6. Foundation of the International Institute for Chemistry 149
6.1 Resuming contact with Ostwald 149
6.2 Intensification of Solvay's work 151
6.3 The chemists and their expectations 152
6.4 Haller's good offices 154
6.5 Solvay's personal research 157
6.6 Back to ISIC 158
6.7 Impact of Ostwald's observations 160
6.8 Haller's master card 162
6.9 Culmination of a jubilee 163

Chapter 7. The Solvay subsidies. 167
7.1 Global situation 167
7.2 How to define the order of priorities? 171
7.3 Some notable successes 176
7.4 Last measures taken by ISC before the debacle 180

Impact of the Great War 183

Chapter 8. The Physics Institute survives the storm 185
8.1 First reactions to the invasion of Belgium 185
8.2 The Manifesto of the 93 188
8.3 A dead end conflict. 193
8.4 Edition of the second Solvay volume: a thankless task 199
8.5 Solvay's actions and projects 201
8.6 Satisfactions, setbacks and hopes 206
8.7 Resumption of ISIP's activities. 212

Chapter 9. Epilogue: from "Solvay III" to "Solvay V" 219
9.1 Solvay III: Atoms and Electrons, April 1–6, 1921 219
9.2 Solvay IV: Electric Conductivity in Metals and Related Problems, April 24–28, 1924 223
9.3 Solvay V: Electrons and Photons, October 24–29, 1927. 226
9.4 Some final thoughts 238

Annexes 243

Annex 1. List of 52 Nobel laureates who took part in one (or in several) Solvay Councils between 1911 and 1933, or who benefitted from a Solvay research subsidy 245

Annex 2. Archival sources relating to the works of Ernest Solvay 247

Annex 3. Solvay's "Gravito-Materialitic" program 249

Annex 4. The Black-Body Problem **253**

Annex 5. Planck's "missed" Nobel Prize **255**

Annex 6. The second Moroccan crisis and the Caillaux affair **257**

Annex 7. Royal patronage **259**

Annex 8. Essential points in the Rutherford-Thomson confrontation **261**

Bibliography **265**

Acknowledgments **271**

Notes **273**

Index. **305**