Contents

Electronics and Information Engineering: A New Approach to Modelling 1880–1950 1
Chris Bissell

Science-Technology Cross-Hybridization and its Role in the Crisis of the Scientific Method: An Historical Perspective 15
Assunta Bonanno, Michele Camarca and Peppino Sapia

How the Movie Camera Failed to Become Part of the Standard Astronomical Observational Toolkit (1895–1914) 33
Vitor Bonifácio

Heart Matters. The Collaboration Between Surgeons and Engineers in the Rise of Cardiac Surgery 53
Luca Borghi

Discovery of Electromagnetic Waves and Their Impact on Our Life-Style 69
Mario Calamia, Giorgio Franceschetti and Alessandro Mori

Interactions of Science, Technology and Medicine: Electromagnetic Radiation During the Twentieth Century 85
Yulia Petrovna Chukova

On the History and Technology of the Atomic Bomb. The Commitment of the Scientists 113
Vincenzo Cioci

Tribology: A Historical Overview of the Relation Between Theory and Application 135
Javier Echávarri, Eduardo de la Guerra and Enrique Chacón

Bibliothek
Deutsches Museum
München

From Paper to Erected Walls: The Astronomical Observatory of Coimbra: 1772–1799 155
Fernando B. Figueiredo

Jean Hellot and 18th Century Chemistry at the Service of the State 179
Rémi Franckowiak

Engineering Creativity: An Essay on Epistemological Analysis 195
Elena Alexandrovna Gavrilina

Galileo's "Technoscience" 207
Vitaly Gorokhov

Mathematical Language as a Bridge Between Conceptualization of Motion and Experimental Practice 229
Ladislav Kvasz

'The Renaissance of Physics': Karl K. Darrow (1891–1982) and the Dissemination of Quantum Theory at the Bell Telephone Laboratories 249
Roberto Lalli

The Historical Development of X-ray Absorption Fine Spectroscopy and of Its Applications to Materials Science 275
Annibale Mottana and Augusto Marcelli

Mathematics and Technology at the University of Tartu 303
Peeter Müürsepp

Highlights of King Sejong's Astronomical Project: Observatory *Ganui-dae* and Calendar *Chiljeong-san* 321
Moon-hyon Nam and Il-seong Nha

Innovations on the Timekeeping Devices at King Sejong's Observatory *Ganui-dae* 345
Moon-hyon Nam

Lazare Carnot and the Birth of Machines Science 367
Agamenon Rodrigues Eufrásio Oliveira

On the History and Engineering of the *Human Factor* 385
Dominique Pécaud

The Emergencies of Mechanics and Thermodynamics in the Western Technoscience-Society during Eighteenth–Nineteenth Century ... 399
Raffaele Pisano and Paolo Bussotti

A Critical Approach to Open Access Sources with a Focus on the History of Technology 437
Birutė Railienė

"Method and Much Scientific Probity": Hugo de Lacerda (1860–1944) and the Chair of Hydrography of the Lisbon Naval School (1897–1907) 453
Pedro Miguel Pinto Raposo

Combinatorial Games and Machines 475
Lisa Rougetet

Development of New Steamships and History of the Shipping Industry in the Kingdom of the two Sicilies (1816–1861) 495
Maria Sirago

Unrealized Models of Tesla's Table Fountains From 1917 513
Bratislav Stojiljković and Svetislav Lj. Marković

The Design of Timber Trusses in Italy: From Empiricism to Structural Analysis 537
Emanuele Zamperini

A Point of View: Sciences, Societies, Cultures and Their Evolutions 559
Bertrand Bocquet

Index 565