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Nota di contenuto	Intro -- Chemical Mineralogy, Smelting and Metallization -- Contents -- Preface -- A New Solid Solution, [(Co, Mn, Ni)(OH)2], in the Vermion Mt (Greece) and Its Genetic Significance for the Mineral Group of Hydroxides -- Abstract -- Introduction -- Global Occurrences of Ni (OH)2 and (Ni,Co,Mn)(OH)2 -- Analytical Methods -- Characteristic Features of the (Co,Mn,Ni)(OH)2 -- Chemical Composition -- Mineralogical and Geochemical Constraints on the Genesis of the (Co, Mn,Ni)(OH)2 -- Conclusion -- Acknowledgements -- References -- Distribution of Clay Minerals in Upland Soils under Different Weathering Conditions of Humid Asia -- Abstract -- 1. Introduction -- 2. Materials and Methods -- 4. Conclusion: Close Relationship among Geological and Climatic Conditions, Clay Mineralogy, and Soil Chemical Properties in Upland Soils in Humid Asia -- References -- Chemical Mineralogy of Solid Waste Materials for Use in Ceramics -- Abstract -- 1. Introduction -- 2. Using Solid Waste Materials in Ceramics -- 3. The Chemical Mineralogy of Wastes -- 4. Incorporation of the Wastes into Ceramic Pastes -- Conclusion -- References -- On the Origin of Platinum-Group Element-Enrichment and Extremely Large (Os-Ir-Ru)-Minerals: Evidence from the Activation Energy Values Estimated by the Arrhenius Equation -- Abstract -- Introduction -- Analytical Methods -- PGE Contents and Composition of Ru-Ir-Os-Minerals in Chromite Ores Associated with Ophiolites -- Controlling Factors of Ipgm Formation --

Implications for the IPGM Crystallization -- Reliability of the Estimated Value of Activation Energy -- Applications of the Activation Energy to the Origion of Large IPGM-Phases -- Conclusion -- References -- Mass-Balance Calculations and Stable Isotope Systematics of Mesothermal Gold Deposits: Example from Betam Mine, Egypt -- Abstract -- Introduction -- Geologic and Structural Setting. Gold Mineralization -- Hydrothermal Alteration -- Geochemistry of the Altered Wallrocks -- Discussion -- Conclusions -- Acknowledgments -- References -- Environmental Impact of Smelting Activities -- Abstract -- 1. Introduction -- 2. Factors Controlling Trace Element Distribution and Transfer in the Soil-Vegetation-Water Systems -- 3. Example of Environmental Impact of Smelting Activities: Tharsis, Riotinto and Huelva (Iberian Pyrite Belt, SW Spain) -- Conclusion -- References -- Environmental Application of Smelting - Combination of Smelting Technique with Gasification for Solid Waste Management -- Abstract -- Introduction -- Principle of Smelting -- Principle of Gasification -- Development of Gasification-Smelting Unit -- Waste-to-Energy Project in the Czech Republic -- Results and Discussion -- General Remarks and Perspective -- Acknowledgements -- References -- About the Descriptions of Iron Metallurgy in the 18th Century - from Phlogiston and Plumbago to Oxygen, which Place for Carbon in Cast Iron? -- Abstract -- Introduction -- 1. Preliminary Definitions -- 2. The Question of Purity at the Beginning of the 18th Century -- 3. Phlogiston and Plumbago in Iron Products -- 4. Description of Cast Iron after First Chemical Analysis -- 5. Clarification: Carbon and/or Oxygen? -- 6. Inveterate Conservatives -- 7. About the Special French Situation -- Conclusion -- Appendix I: Analysis of Carbon in Iron by Acid Dissolution -- References -- Integral Evaluation of Efficiency of Remediation Methods for Baikal Region Gray Forest Soil Polluted by Aluminum Production Fluorides -- Abstract -- Introduction -- Materials and Methods -- Results and Discussion -- Conclusions -- Acknowledgements -- References -- The Environmental Impact of Discharging Metalliferous Waste in a Mediterranean Coastal Area (Aegean Sea, N. Evvoikos Gulf, Greece) -- Abstract -- Introduction. Materials and Methods -- Results and Discussion -- Conclusions -- References -- Electrochemical Mechanical Planarization of Copper with Corrosion Organic Inhibitors -- Abstract -- Introduction -- Experimental -- Result -- Conclusion -- References -- Finite Element Simulations of Metallization Structures for Reliability Prediction -- Abstract -- Introduction -- 1. Metallization Materials -- 2. Material Properties -- 3. Migration Mechanism and Simulation Flow -- 4. Description of the Simulation Models -- 5. Nanointerconnects -- 6. Process-Induced Stress -- 7. Influence of Different Variations (Barrier Thickness and Material, Via Dimension and IMD) -- 8. Comparison of the Different Technology Nodes -- 9. Dynamic Void Simulation -- 10. Conclusions -- 11. References -- Metallization over Nonplanar Surfaceses -- Abstract -- 1. Introduction -- 2. Problems Associated with Metalization Over Nonplanar Wafers -- 3. Spray Coating over Nonplanar Surfaces -- 4. Other Photoresist Coating Methods -- 5. Applications -- Conclusions -- References -- Room-Temperature Resistivity of Ti/Pt Thin Films on LTCC/Glass Substrates upon High Temperature Annealing -- Abstract -- 1. Introduction -- 2. Device Preparation and Experimental Procedure -- 3. Results -- Discussion -- Summary and Conclusion -- References -- Atomic Layer Deposition of Metals for Sub 45 Nm Cu Metallization -- Abstract -- I. Introduction -- II. Ald of Ta-Based Diffusion Barriers -- III. PE-ALD Diffusion Barriers on Low K Materials -- IV. ALD for Seed Layers -- Conclusions -- Acknowledgements -- References -- Index.

Sommario/riassunto

This text presents research on mineralogy, including a review on the chemical mineralogy of ornamental rock waste and water treatment plant waste, which are produced world-wide in large scales and are a concerning issue for industry and environmentalists alike.