

Contents



1 Reich Thalers and Pechblende	1
1.1 Holy Roman Empire (Heiliges Römisches Reich).....	1
1.2 Czech Bohemia Resists	6
1.3 Schlick Silver Mint	9
1.4 Battle of Mohacs	15
1.5 Pechblende	18
1.6 Religious War.....	19
References.....	23
2 Ionizing X-rays	27
2.1 Luminescence.....	27
2.2 Fluorescence.....	29
2.3 Discovery	32
2.4 Post-discovery Reports.....	35
2.5 Ionizing Radiation.....	42
2.6 Haarausfall and Therapy	44
2.7 Supplemental Material: Partial List of Röntgen Awards and Honors	52
References	53
3 Radioactive Rocks	57
3.1 Becquerel Rays.....	57
3.2 Klaproth.....	58
3.3 Marie and Pierre.....	61
3.4 Widowed at 38.....	70
3.5 Rutherford	74
3.6 Supplemental Material: Parisian Chemists at the Time of the Curies	79
References.....	80

4	European Radium Sales	83
4.1	Radium Factories	83
4.2	Curie-Therapy	98
	References	105
5	Colorado Uranium	109
5.1	Mexican Cession	109
5.2	Colorado Minerals	114
5.3	Colorado Plateau	120
5.4	Carnotite Mineral Belt	125
	References	129
6	US Radium and Uranium Sales	133
6.1	American Vanadium Company	133
6.2	Standard Chemical Company	137
6.3	The Denver and Canonsburg Legacies	145
6.4	The Uravan Mineral Belt	149
6.5	US Radium Corporation	152
6.6	Radium Chemical Company	155
	References	157
7	US Radium Oncology	161
7.1	Cancer Care in the Nineteenth Century	161
7.2	New York Cancer Hospital	164
7.3	Professor James Douglas	166
7.4	National Radium Institute	170
7.5	Dr. H. A. Kelly Hospital	173
7.6	Janeway and Tele-Gamma Therapy	180
	References	183
8	Congo and Arctic Uranium Sales	187
8.1	Belgium Radium Monopoly	187
8.2	Eldorado Gold Mining Company	190
8.3	Uranium Supplies	194
8.4	Boris Pregel	200
8.5	Congo Crisis	205
	References	206
9	Miner's Plague	209
9.1	Agricola	209
9.2	Miner's Medical Maladies	214
9.3	Radon	217
9.4	Schneeberg Lung Disease	219

9.5	Third Reich Occupational Medicine	222
9.6	Supplemental Material: Classic German Studies on the Radon Hazard: 1879–1939.....	226
	References	227
10	Cold War Uranium Blunders.....	229
10.1	Dr. W. C. Hueper	229
10.2	Murray Hill Survey	231
10.3	Jachymov Ignored	233
10.4	Partition of Germany	237
10.5	The Soviet Bonanza	239
10.6	American Wismut.....	244
10.7	End Note.....	248
	References	250
	Appendices.....	253
	Appendix I: Periodic Table	253
	Appendix II: Radiation Therapy Trials: 1900–1909	254
	Appendix III: Uranium Minerals: Tested by Marie Curie and Used by European Factories.....	256
	Appendix IV: Radioactive Decay Tables: Unstable to Stable.....	257
	Appendix V: Uranium Decay Emissions	258
	Appendix VI: Beta and Gamma Decay Emissions	258
	Appendix VII: Price of Radium, in US Dollars	259
	References	260
	Index.....	261