

Table of Contents

Introduction	ix
M.L. WAYMAN and P.J. MACKEY	
THE DEVELOPMENT OF METALLURGY	
Native Copper: Humanity's Introduction to Metallurgy?	3
M.L. WAYMAN	
Man's First Use of Jarosite: The Pre-Roman Mining and Metallurgical Operations at Rio Tinto, Spain	7
J.E. DUTRIZAC, J.L. JAMBOR and J.B. O'REILLY	
Roman Lead Plumbing, did it Really Contribute to the Decline and Fall of the Empire?	13
J.E. DUTRIZAC, J.B. O'REILLY and R.J.C. MacDONALD	
Old Iron Nails.	18
U.M. FRANKLIN	
Dotaku: an Example of Metallurgy in Prehistoric Japan.	22
K.T. AUST	
The Origins of Zinc and Brass.	26
J.E. DUTRIZAC and J.B. O'REILLY	
Zinc and Brass in Ancient India.	31
H.V. PALIWAL, L.K. GURJAR and P.T. CRADDOCK	
Brass Making in Medieval Western Europe.	35
S.K. ZACHARIAS	
The Farga Catalana.	41
P. MOLERA	
Cast Iron in Late Medieval Europe: A Re-examination	45
B.S. HALL	
The Smelting Industry in the Lower Swansea Valley of South Wales: A Brief History.	52
P.J. MACKEY	
The Tredegar Iron Works of Richmond, Virginia.	55
R.E. JOHNSON	
Manganese and Its Importance to Nineteenth Century Metallurgy.	60
W.M. WILLIAMS	
The Early History of the Electrolytic Zinc Process.	66
D.J. MacKINNON	
The End of Horizontal Zinc Retorting in the United States.	70
J.E. DUTRIZAC	
One Hundred Years of the Bayer Process for Alumina Production.	72
F. HABASHI	
One Hundred Years of Cyanidation.	78
F. HABASHI	
CANADIAN METALLURGICAL HISTORY	
Introduction: Overview of the Early History of the Metallurgical Industry in Canada	89
P. TARASSOFF	
On the Early Use of Iron in the Arctic	94
M.L. WAYMAN	
Frobisher's Gold on Koldlunarn Island — Fact or Fable?	101
D.D. HOGARTH and J. LOOP	

Technical Investigations of Iron-working Remains from the French Jesuit Mission of Sainte-Marie Among the Hurons (1639-1649)	105
S.K. ZACHARIAS, J.R. HUNTER and U.M. FRANKLIN	
Technological Changes at Les Forges du St. Maurice, Quebec (1729-1883)	109
A. BÉRUBÉ	
Ironworking in Upper Canada: Charles Hayes and the Marmora Works	114
R. MICHAEL	
Nineteenth Century Nova Scotia Iron Works	117
C. ANDREAE	
Discovery and Technological Change: The Origins of Steelmaking at Sydney, Nova Scotia	122
K.E. INWOOD	
The Woodstock Ironworks, Carleton County, New Brunswick	127
R.R. POTTER	
Edward Haycock and His Gatineau Mine	130
D.D. HOGARTH	
The Grantham Iron Works	136
D.J. McDougall	
An Historical Sketch of the Canadian Steel Industry	143
W.M. WILLIAMS	
Early Nova Scotia Gold Mining	147
J. HARTLEN	
Metallurgical Developments at Deloro, Ontario (1868-1919)	149
R.T. BOWLES	
The First Cyanide Leaching Plants in Canada	155
J.E. DUTRIZAC and J.B. SUNSTRUM	
The First Copper Smelter in Canada	160
E. KOSSATZ and P.J. MACKEY	
The Historical Development of Copper Smelting in British Columbia	162
S.A. BRADFORD	
“Somewhere in Eastern Canada...” A History of Canadian Copper Refiners	166
J.H. SCHLOEN	
Early Canadian Lead Smelters	168
J.E. DUTRIZAC and J.B. SUNSTRUM	
The Founding of the Canadian Zinc Industry	171
J.E. DUTRIZAC	
The Hall-Héroult Process in Canada	174
F. McGRAVIE, W.W. ROBERTSON and S.T. SOLINSKI	
The Early History of Electrorefining in Canada	178
D.J. MacKINNON	
Nickel Smelting at Copper Cliff: The Second Fifty Years	182
J.W. MATOUSEK	
Falconbridge Ltd. — 60 Years in a Century	185
G.A. CRAWFORD	
The Development of the Sherritt Ammonia Pressure Leach Process	189
D.G.E. KERFOOT	
Conclusions (Preserving the Historical Record of Canadian Mining and Metallurgy)	195
N.R. BALL	