DANIEL A. WREN • ARTHUR G. BEDEIAN

The Evolution of Management Thought

SEVENTH EDITION

The Evolution of Management Thought

Seventh Edition

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To Leon, Maude, and Karen
my links with the past;
To Jonathan, Laura, and Lynda;
and to another generation,
Karen Nicole, Tanner Main, Ethan Daniel, Sarah Lynn, and Caitlyn Claire
my links with the future.

To Varsenick and Arthur Bedeian
for reasons lost to history;
To Lynda, Katherine, and TAB;
for every reason;
To Anna-Kennon, Kate McGee, Laura Gabrielle, and Elizabeth Jane
for making me so very happy.

Brief Contents

	About the Authors	xvii
	Preface	xix
Part 1	Early Management Thought	
1	A Prologue to the Past	3
2	Management Before Industrialization	11
3	The Industrial Revolution: Challenges and Perspective	31
4	Management Pioneers in the Early Factory	48
5	The Industrial Revolution in the United States	62
6	Industrial Growth and Systematic Management	75
D 10	TI 6 ' 1'C M	
Part 2	The Scientific-Management Era	
7	The Advent of Scientific Management	95
8	Spreading the Gospel of Efficiency	123
9	The Human Factor: Preparing the Way	150
10	The Emergence of the Management Process and Organization Theory	170
11	Scientific Management in Theory and Practice	188
12	Scientific Management in Retrospect	214
Part 3	The Social Person Era	
Part 3	The Social Person Era	
13	The Hawthorne Studies	229
14	The Search for Organizational Integration	248
15	People and Organizations	265
16	Organizations and People	280
17	Human Relations in Theory and Practice	297
18	The Social-Person Era in Retrospect	305

vi Brief Contents

Part 4 Moving Onward: The Near Present

19	Management Theory and Practice	321
20	Organizational Behavior and Organization Theory	339
21	Science and Systems in an Information Age	362
22	Obligations and Opportunities	375
	Epilogue	386
	Name Index	387
	Subject Index	403

Contents

About the Authors xvii Preface xix Part 1 Early Management Thought 1 1 A Prologue to the Past A Cultural Framework 4 The Economic Facet 5 The Social Facet 6 The Political Facet 6 The Technological Facet 6 People, Management, and Organizations 7 The Human Being 8 Organizations and Management 9 Summary 10 2 Management Before Industrialization 11 Management in Early Civilizations 11 The Near East 11 The Far East 12 Egypt 14 The Hebrews 14 Greece 15 Rome 16 The Roman Catholic Church 17 Feudalism and the Middle Ages 18 The Revival of Commerce 18 Cultural Rebirth 21 The Protestant Ethic 21 A Criticism of the Weberian Thesis 23 Modern Support for Weber 24 The Liberty Ethic 25 The Market Ethic 27 Summary 30

3]	The Indu	strial Re	volution:	Challenges	and Pers	pective	31
-----	----------	-----------	-----------	------------	----------	---------	----

The Industrial Revolution in Great Britain 31

The Steam Engine 32

Management: The Fourth Factor of Production 34

Management Challenges in Early Factories 35

The Labor Challenge 35

Recruitment 35

Training 36

Discipline and Motivation 37

The Search for Managerial Talent 39

Management Functions in the Early Factory 41

Cultural Consequences of the Industrial Revolution 43

Working Conditions 43

Child and Female Labor 45

Summary 47

4 Management Pioneers in the Early Factory 48

Robert Owen: The Search for a New Harmony 48

Early Managerial Experiences 49

The Call for Reform 50

Charles Babbage: The Irascible Genius 53

The First Computer 53

Analyzing Industrial Operations 55

Andrew Ure: Pioneering in Management Education 56

Principles of Manufacturing 57

Charles Dupin: Industrial Education in France 58

The Pioneers: A Final Note 60

Summary 61

5 The Industrial Revolution in the United States 62

Antebellum Industry and Management 62

Early Industrial Development 63

The American System of Manufacturing 65

The Railroads: Pioneering in U.S. Management 67

The Communication Revolution 67

The Age of Rails 68

Daniel C. McCallum: System and Organization 68

Henry V. Poor: A Broader View of Management 71

Emerging Governance Issues 72

Summary 74

6 Industrial Growth and Systematic Management 75

The Growth of U.S. Enterprises 75

ix

The Emergence of Systematic Management 78
Engineers and Economists 78
The Labor Question 81
Big Business and Its Changing Environment 84
Business and Society: Barons or Benefactors? 84
Business and Labor: Uneasy Relations 88
Inventive and Innovative Impulses 89
Business and Government: Seeds of Reform 90

Part 2 The Scientific-Management Era 93

7 The Advent of Scientific Management 95

Frederick W. Taylor: The Early Years 96

Taylor at Midvale 96

Summary of Part 1 91

The Search for Science in Management 98

The Quest for Improved Performance Incentives 99

Task Management 102

Taylor: The Manager and the Consultant 104

Taylor: The Peripatetic Philosopher 108

The Eastern Rate Case 109

Watertown and the Congressional Investigation 112

The Mental Revolution 117

Taylor and the Human Factor 119

Summary 121

8 Spreading the Gospel of Efficiency 123

The Most Orthodox: Carl G. Barth 123

Charting Other Paths: Henry L. Gantt 125

The Task and Bonus System 126

The Habits of Industry 127

Graphic Aids to Management 127

Gantt: The Later Years 129

Partners for Life: The Gilbreths 131

Nothing Succeeds Like . . . 132

And So, into Scientific Management 134

Support for the Scientific-Management Movement 135

The First Lady of Management 137

Efficiency through Organization: Harrington Emerson 141

Line and Staff Organization 142

Principles of Efficiency 143

Emerson's Efficiency Engineering and Practice 144

The Gospel in Public-Sector Organizations: Morris L. Cooke 145

x Contents

The Boxly Talks 146
Public Administration 148
Summary 149

9 The Human Factor: Preparing the Way 150

Personnel Management: A Dual Heritage 151 Personnel as Welfare Work 151 Scientific Management and Personnel 153 Psychology and the Individual 157 Toward Scientific Psychology 158 The Birth of Industrial Psychology 158 The Social Person Era: Theory, Research, and Practice 160 The Antecedents of Industrial Sociology 160 Sociological Foundations 163 Some Early Empirical Investigations 163 The "Democratization of the Workplace" 164 The Trade-Union Movement 164 The Changing Nature of Union–Management Cooperation 166 Employee Representation Plans 168 Summary 169

10 The Emergence of the Management Process and Organization Theory 170

Henri Fayol: The Man and His Career 170
The Need for Management Theory 173
The Principles of Management 174
The Elements of Management 178
Planning 178
Organizing 179
Command, Coordination, and Control 181
A Final Note 182
Bureaucracy: Max Weber 183
Bureaucracy as the Ideal 184
The Advantages of Bureaucracy 185
The Disadvantages of Bureaucracy 186
Summary 187

11 Scientific Management in Theory and Practice 188

The Study and Practice of Scientific Management 189
Education for Industrial Management 189
The International Scientific-Management Movement 192
France and Britain 192

Germany, Austria, Poland, and Russia 193
Scientific Management in Other European Nations 196
Formalizing Scientific Management in Europe 197
Japan, China, and Australia 198
And Beyond 200
Scientific Management in Industrial Practice 201
The Hoxie Report 202
The Thompson and Nelson Studies 205
Emerging General Management 207
The Impact of Scientific Management on Other Disciplines 2

The Impact of Scientific Management on Other Disciplines 207
Early Organization Theory 208
Scientific Management at DuPont and General Motors 209
Business Policy 211
Summary 213

12 Scientific Management in Retrospect 214

The Economic Environment: From the Farm to the Factory 215

Technology: Opening New Horizons 217

The Social Environment: From Achievement to Affiliation 219

Cultural Thought: The Collision Effect 220

The Social Gospel 220

The Political Environment: The Advent of Progressivism 222

Scientific Management and the Progressives 222

Business and the Progressives 223

Summary of Part II 224

Part 3 The Social Person Era 227

13 The Hawthorne Studies 229

The Hawthorne Studies Begin 230

Illumination Study (1924–1927) 230

Relay-Assembly Test-Room Study (1927–1932) 231

The Interviewing Program (1925–1932) 235

Bank-Wiring Observation Room Study (1931–1932) 238

Organizations as Social Systems 240

Human Relations, Leadership, and Motivation 241

Human Relations and Human Collaboration 243

Anomie and Social Disorganization 244

Developing the Human-Relations-Oriented Manager 245

Human Relations and Motivation 245

Summary 247

14 The Search for Organizational Integration 248

Mary P. Follett: The Political Philosopher 248

The Group Principle 249

Conflict Resolution 251

A Business Philosopher 252

Authority, Responsibility, and Power 253

The Task of Leadership 254

A Final Note 256

Chester I. Barnard: The Erudite Executive 257

The Nature of Cooperative Systems 258

Formal Organizations: Theory and Structure 259

The Acceptance Theory of Authority 260

The Functions of the Executive 261

Moral Leadership 263

Coda 263

Summary 264

15 People and Organizations 265

People at Work: The Micro View 265

Developing Constructs for Group Analysis 266

The Growth of Human-Relations Research

and Training 269

Changing Assumptions about People at Work 270

People and Motivation 270

Job Enlargement 273

Participation in Decision-Making 273

Leadership: Combining People and Production 275

People at Work: The Macro View 276

Organizations as Sociotechnical Systems 277

New Tools for Macro Analysis 278

Summary 279

16 Organizations and People 280

Organizations: Structure and Design 281

James D. Mooney: Organization Theory and Practice 281

Texts, Teachers, and Trends 283

Building Blocks for Administrative Theory 286

Span of Control 288

Toward a Top-Management Viewpoint 289

Ralph C. Davis: Pater Familiae et Magister 290

Harry Hopf: Toward the Optimum 292

Analyzing Top Management 293

Ownership and Control 294 Invisible and Visible Hands 295 Summary 296

17 Human Relations in Theory and Practice 297

The Impact of Human Relations on Theory and Practice 297
Applying and Extending Human Relations 298
Hawthorne Revisited 298
Premises of an Industrial Society 298
Research Methods and Data Interpretation 300
Summary 304

18 The Social-Person Era in Retrospect 305

The Economic Environment: From Depression to Prosperity 305
Attempts at Economic Recovery 306
Big Business 307
Seeds of Change: The New Technologies 308
The Social Environment: The Social Ethic
and the Organization Man 309
Shifting Social Values 310
A "Confusion of Souls" 312
The Social Ethic 312
The Political Environment: FDR's Pledge 314
The New Deal 314
Augmenting the Position of Labor 315
Summary of Part III 317

Part 4 Moving Onward: The Near Present 319

19 Management Theory and Practice 321

The Renaissance of General Management 322
Principles of Management and the Functions of Management 322
Peter F. Drucker and the Practice of Management 323
Management Education: Challenges and Consequences 325
The "Management Theory Jungle" 326
Management Education: The Porter–McKibbin Report 327
The Management Theory–Practice Divide 327
What Do Managers Do? 329
Global Studies of Managerial Work 330
The Changing Scene 331
From Business Policy to Strategic Management to Global Strategy 331

xiv Contents

Markets and Hierarchies 333
The Resource- and Knowledge-Based Theories of the Firm 333
Governance and Agency Issues 334
Multinational Enterprise and Global Strategy 335
Strategic Leadership and "Dynamic Capabilities" 336
Summary 338

20 Organizational Behavior and Organization Theory 339

The Human Side of Organizations 340

The Transition from Human Relations to Organizational Behavior 340 Theories X and Y 341

Human-Resource Management and Industrial Relations: The Changing Scene 343

Job Design 345

Work Motivation 347

Effective Leadership 349

The Trait Phase 349

The Behavioral Phase 350

The Situational Phase 351

Contemporary Leadership Theories 351

Managing Across Borders 353

Project GLOBE 355

Organization Theory: A Continuing Venture 356

Aston Studies: Workflow Integration and Production Continuity 356

Thompson: Technological Interdependence 357

Contingency Theory 357

Organizations and Their Environments 358

Strategic Choice 358

Resource-Dependence Theory 359

Population Ecology 359

U.S. Theories Abroad 360

Summary 361

21 Science and Systems in an Information Age 362

The Quest for Science in Management 363

Operations Research (OR) 363

Production Management in Transition 364

"If Japan Can . . . Why Can't We?" 365

Quality and Quality Circles 365

The Toyota Production System and Lean Manufacturing 368

Globalization and the International Organization for Standardization 368

Seeking World-Class Manufacturing 368

Systems and Information 369
General Systems Theory and Cybernetics 370
From the "Invisible Hand" to the "Digital Hand" 371
It Is a Small, Smaller World 371
Enabling Global Trade through Information and Communication 373
Summary 374

22 Obligations and Opportunities 375

Managing in a Global Arena 375
The Globalization of Business 375
Individuals and Organizations: Relating to Evolving Expectations 377
Business Ethics 378
Acting Ethically and Globally 380
Business and Society 381
Social Entrepreneurship 384
Business and Its Environment 384
Summary 385

Epilogue 386 Name Index 387 Subject Index 403

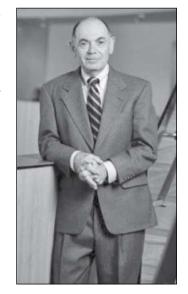
About the Authors



Daniel A. Wren, PhD, the University of Illinois, is David Ross Boyd Professor of Management *Emeritus* and Curator *Emeritus* of the Harry W. Bass Business History Collection at The University of Oklahoma. He has served as president of the Southern Management Association, as chairman of the Management History Division of the Academy of Management, is a Founding Fellow of the Southern Management Association and a Fellow of the Academy of Management. He has been honored as a member of the Oklahoma Higher Education Hall of Fame and has received the Distinguished Educator Award from the Academy of Management for his contributions "as the foremost management historian of his generation." His research has appeared in numerous scholarly journals, and he is the author of *Collegiate* Education for Business Administration at The University of Oklahoma: A History; White Collar Hobo: The Travels of Whiting Williams; and coauthor with Ronald G. Greenwood

of Management Innovators: The People and Ideas That Have Shaped Modern Business.

Arthur G. Bedeian, DBA, Mississippi State University, is a Boyd Professor *Emeritus* and former Ralph and Kacoo Olinde Distinguished Professor of Management at Louisiana State University and A&M College. A past-president of the Academy of Management and former dean of the Academy's Fellows Group, he has also served as president of the Foundation for Administrative Research, the Allied Southern Business Association, the Southern Management Association, and the Southeastern Institute for Decision Sciences. He is a Founding Fellow of the Southern Management Association, and a Fellow of the International Academy of Management, the American Psychological Association, the Society for Industrial and Organizational Psychology, and the Association for Psychological Science. Among his honors, he has received the Academy of Management's Distinguished Educator and Service Awards, Ronald G. Greenwood Lifetime Achievement Award, and Richard M. Hodgetts Distinguished Career Award. A former editor of the Journal of Management, he has been on 18 editorial boards,



including the Academy of Management Review, Journal of Applied Psychology, Leadership Quarterly, Organizational Research Methods, Journal of Management History, Management & Organizational History, and Academy of Management Learning & Education. He has served on various government committees, twice chaired the J. William Fulbright Foreign Scholar Board, and been an external or panel reviewer for the National Science Foundation, the National Academy of Science, and the National Research Council of Canada.

Preface

Over the past half-century, the authors have come to more fully appreciate that everything about management as an academic discipline—its language, its theories, its models, and its methodologies, not to mention its implicit values, its professional institutions, and its scholarly ways—comes from its inherited traditions. The formal study of management, however, is relatively new. To adapt a line from Ebbinghaus, whereas the practice of management has a long past, the study of management as a discipline has but a short history.¹

Our challenge as we have explored this history and prepared each edition of *The Evolution of Management Thought* has been to recognize that, like all historians, we are a product of our own personal interests and biases. Subjectivity is inherent at every stage of historical knowledge. As historical meaning can only be established in retrospect, even "historical 'facts' are strongly embedded in interpretation." Despite their best efforts, "[h]istorians may strive for objectivity, but . . . they cannot completely escape from their own historical moment, their culture, or their own past." Thus, before moving ahead to Chapter 1, we forewarn our readers that because history is not an objective science, how things "really were" can never be fully known.

In further complication, given that it is impossible to rewind time, the historical record is inevitably spotty and fragmentary. There are many missing links. It is hence seldom (if ever) possible to establish an unquestioned chain of antecedents and consequences leading to a specific event. Moreover, although there are those who argue that to "see the world truly" one must "survey the whole stream of time in one comprehensive vision," we find that efforts to do so all too frequently make history medicinal, reducing historical knowledge to a drab meshing of abstract and impersonal forces. The study of history need not be a slog through time. To avoid pointless excess associated with a mere chronicling of past events and to give texture to the people and ideas discussed, we have attempted to offer flecks of color when appropriate.

We strongly believe that contemporary scholarship within the management discipline suffers to the extent that it lacks an appreciation of the past's impact on modern thinking. To learn that others in the past have traveled the same intellectual byways offers reassurance that progress in scholarship is a multigenerational endeavor. Joining us in an appreciation of the "past as prologue," March has argued, and we concur, the pursuit of knowledge involves the improvement of ideas "as they evolve through generations of individual scholars and scholarly communities, each building on those who went before and providing a base for those who follow." Further echoing our own sentiments, March has exulted "the benefits and beauties of being connected to a boundless past of cumulative scholarship that can anticipate a boundless future in which the ideas of today mature and develop into complex wonders of future knowledge." 5

¹ Hermann Ebbinghaus, *Abriss der Psychologie [Outline of Psychology]* (Leipzig: Verlag von Veit & Comp., 1908), p. 1. The original Ebbinghaus quote reads: "Die Psychologie hat eine lange Vergangenheit, doch nur eine kurze Geschichte."

² Geoffrey Jones and Tarun Khanna, "Bringing History (Back) into International Business," *Journal of International Business Studies* 37(4) (July 2006), p. 465.

³ Alert L. Hurtado, *Herbert Eugene Bolton: Historian of the American Borderlands* (Berkeley, CA: University of California Press, 2012), p. 165.

⁴ Bertrand A. M. Russell, "Mysticism and Logic," Hibbert Journal 12(4) (July 1914), p. 795.

⁵ James G. March, "Research on Organizations: Hopes for the Past and Lessons from the Future," *Nordiske Organisasjonsstudier* 1(1) (1999), pp. 80, 81.

xx Preface

Like its predecessors, *The Evolution of Management Thought* (7/e) seeks to capture the "benefits and beauties" of this past as a basis for expanding our intellectual horizons. As Sarason has warned, however, "we can be unfortunate prisoners of time and place unless our education builds into us schemata that aid us in taking distance from our time and place." Toward this end, every chapter in this edition has been rigorously reviewed and systematically updated to convey an appreciation of the narrative past underlying the evolution of management thought. Our intent has been to place various theories of management in their historical context, showing how they developed as thinking about the nature of work, the nature of human beings, and the nature of organizations has changed across time. With this in mind, we caution readers to avoid the folly of judging the past by latter-day standards.

History may be portrayed using any number of complementary approaches. The following account presents a chronological history of management thought. In doing so, it makes no claim at being encyclopedic in its coverage nor is it meant to suggest that progress is always linear. With respect to the former, our aim was not to write a history of everything that has happened within the management discipline since the beginning of time. Indeed, as Elliott writes: "No narrative is ever fully comprehensive, no explanation total, and the balance between description and analysis is painfully elusive." Concerning the latter point, within a four-part chronological structure (Early Management Thought; The Scientific-Management Era; The Social-Person Era; and Moving Onward: The Near Present), we move back and forth through time highlighting unsuspected connections and, as suggested above, exhort readers to eschew what might be called "straight-line thinking" in associating individual factors with specific events.

We have chosen a chronological structure not only because a "consideration of time sequences is crucial to any kind of history writing," but because we believe it best creates a feeling for the *zeitgeist* of the people and ideas that compose the management discipline's intellectual heritage. Moreover, we realize that in distinguishing between various eras or periods in time, different boundaries could have been employed. This said, as Logan has observed: "History has few 'natural' lines of fracture." We thus remind readers that the boundaries we have selected "are not the boundaries of what really happened at a given place or time; rather, they are boundaries [we have chosen] about that place and time – a story that has a workable beginning and end."

In addition, we should perhaps also comment on the title *The Evolution of Management Thought*. It has been said that "A teacher must either treat history as a catalogue, a record, a romance, or as an evolution." We have selected the latter. Our use of the term "evolution" in both title and text is meant to refer to the historical development of management thought over time. We have no intention of calling to mind Darwin's theory of evolution by natural selection "in which randomly generated traits survive and spread because they provide some edge in the competition for survival and reproduction." We have no Darwinian theory of evolution to promulgate and would find it impossible to manhandle the facts to fit one.

The continuing interest of scholars who care about the evolution of management thought and the students who find value in the lessons history provides made this edition possible.

⁶ Seymour B. Sarason, The Making of an American Psychologist (San Francisco: Jossey-Bass Publishers, 1988), p. 277.

⁷ John H. Elliot, *History in the Making* (New Haven, CN: Yale University Press, 2013), p. 94.

⁸ Ernst Mayr, *The Growth of Biological Thought: Diversity, Evolution, and Inheritance* (Cambridge, MA: Harvard University Press, 1982), p. 2.

⁹ Cheryl A. Logan, "Shaping and Owning the Boundaries of a Book," History of Psychology 16(3) (August 2013), pp. 217, 218.

¹⁰ Henry Adams, The Education of Henry Adams (Boston, MA: Houghton Mifflin Company, 1918), p. 300.

¹¹ John R. McNeill, [Review of the book A Foot in the River]. Wall Street Journal (February 29, 2016), p. A11.

Over the years, the authors have had the privilege of training several generations of gifted graduate students who have gone on, as eminent historians, to shape the study of management thought. We are proud of their contributions to our knowledge of the past and, in particular, the leadership they have provided chairing the Management History Division of the Academy of Management. This latter group is comprised of Paula Phillips Carson, the late Kerry David Carson, Shawn M. Carraher, Franz T. Lohrke, Milorad M. Novicevic, Roland E. Kidwell, and Stephanie Case Henagan. Several esteemed colleagues who propelled management history into the limelight as a scholarly endeavor and from whom we learned so much are now deceased. In particular, we wish to remember Claude S. George, Jr.; John F. Mee; Richard J. Whiting; W. Jerome Arnold; Ronald G. Greenwood; James C. Worthy; Richard M. Hodgetts; Alfred A. Bolton; William B. Wolf; William F. Muhs; and Charles D. Wrege. Their unique insights and contagious enthusiasm continue to inspire us. We remain indebted to John D. Breeze, W. Jack Duncan, Peter B. Petersen, and David D. Van Fleet for their decades of friendship and contributions to expanding our knowledge about the management discipline's past.

Among the many individuals who aided in locating original source materials, we are indebted to Leah S. Loscutoff, Head of Archives and Special Collections, Samuel C. Williams Library, Stevens Institute of Technology for aid in navigating the Frederick Winslow Taylor Collection; Patrizia Stone, Research Archivist, Kheel Center for Labor Management Documentation and Archives, Cornell University for locating items in the Charles D. Wrege Research Papers; Regina Scannell Greenwood for access to the Ronald G. Greenwood Collection, University Archives, Alvin Sherman Library, Nova Southeastern University (Fort Lauderdale, FL); Kenneth F. Thomas, Senior Manuscript Specialist, State Historical Society of Missouri–St. Louis for combing the records of the International Association of Machinists and Aerospace Workers (District 9); Keith W. Rabiola and Lee C. Grady, Public Services Librarian and Senior Reference Archivist, respectively, Archives Division, Wisconsin Historical Society Library-Madison for searching the Wisconsin State Federation of Labor Papers, the John R. Commons Papers and the Richard T. Ely Papers; Nicole Potter and Nicole C. Westerdahl, Reference Assistant and Reading Room Supervisor, respectively, Special Collection Research Center, Syracuse University Libraries for material from the Collis Porter Huntington Papers; Sarah Roberts, Acquisitions Archivist, University Archives and Historical Collections, Michigan State University Libraries for consulting the Nels Peter Alifas Papers; Traci JoLeigh Drummond, Archivist, Southern Labor Archives, University Library, Georgia State University (Atlanta) for scouring the Archives of the International Association of Machinists and Aerospace Workers; Jennifer G. Eidson, Assistant Labor Collections Archivist, Special Collections and University Archives, University of Maryland Libraries for an introduction to the AFL-CIO Archives, and Alison Barnard, Norfolk Record Office, The Archive Centre (Norwich, United Kingdom) for assistance in locating records pertaining to Rev. Morgan Powell.

It has been a pleasure working with Regina Scannell Greenwood and Julia Kurtz Teahen in developing PowerPoint slides to accompany this new edition. The slides feature photographs, charts, and other visual materials that enliven and augment the companion text. Eric C. Taylor deserves particular mention for reviewing page proofs and providing invaluable comments and suggestions. At John Wiley & Sons we wish to express our appreciation to Lisé Johnson, Executive Editor; Jennifer Manias, Development Editor; Alicia South-Hurt, Photo Researcher; Janet Wehner, Project Manager; and Gladys Soto, Editorial Manager, Content Enablement & Operations, who cheerfully saw the present edition through its various stages from manuscript to print. Ameer Basha, Production Editor, provided valuable support throughout. We thank staff at SPi Global for copyediting. Finally, we want to acknowledge Melba K. Staub and Jacob J. Fontenot, Middleton Library, Louisiana State University, for obtaining material through the Interlibrary Loan Service, as well as their colleague Rebecca N. Kelley, Research & Instruction Services Librarian, for fulfilling—at record speed—countless acquisition requests.

xxii Preface

No book fully achieves the intentions of its creators. We would thus welcome being told of any discrepancies in the following pages, as well as receiving additional information or materials that might be incorporated into a future edition. In closing, we remain grateful for the suggestions and encouragement of the many people who have used previous editions of *The Evolution of Management Thought* in the classroom and in their own research.

Daniel A. Wren Norman, Oklahoma Arthur G. Bedeian Baton Rouge, Louisiana

July 4, 2017

Early Management Thought

part

1

Part 1 traces developments in management thought up to the scientific-management era in the United States. After a brief introduction to the role of managers in organizations, it examines examples of early management thought and then demonstrates how economic, social, political, and technological changes set the stage for the Industrial Revolution. This revolution created unprecedented managerial challenges in the emerging factory system and led to the need for the formal study of organizations and management. The genesis of modern management thought is found in the work of early pioneers who sought to solve the challenges created by the embryonic factory system. Part 1 concludes by tracing this genesis of management thought in the United States and examining early experiences with the developing factory system, the work of early management writers, and the cultural framework in the United States before the scientific-management era.

A Prologue to the Past

chapter

1

A Cultural Framework
The Economic Facet
The Social Facet
The Political Facet
The Technological Facet
People, Management, and Organizations
The Human Being
Organizations and Management
Summary

The practice of management is ancient, but the formal study of management, based on an evolving body of knowledge, is relatively new. Rarely, if ever, in human history has an activity emerged as fast as management and proven so indispensable so quickly. For a broad working definition, management may be viewed as the activity whose purpose is to achieve desired results through the efficient allocation and utilization of human and material resources. Management thought, the evolution of which is our primary focus, is the existing body of knowledge about the functions, purpose, and scope of management.

The goal of this book is to trace the evolution of management thought from its earliest informal days to the present. The study of management, like the study of people and their cultures, is an unfolding story of changing ideas about the nature of work, the nature of human beings, and the nature of organizations. The methodology used in the study of management is analytic, synthetic, and interdisciplinary. It is analytic in examining people who made significant contributions, their backgrounds, their ideas, and their influence. It is synthetic in combining trends, movements, and environmental forces to form a conceptual framework for understanding the changing nature of management thought. It is interdisciplinary in the sense that it includes—but moves beyond—traditional management thinking to draw upon economic history, sociology, psychology, social history, political science, and cultural anthropology to examine management thought from a cultural and historical perspective. The objective is not only to understand what management thought was but also to explain why it developed as it did.

We thus study the past to illuminate the present. Management history as a separate area of study is, however, generally neglected in most schools of business administration. A smattering of history is taught at various levels, but the instruction generally lacks depth, direction, and unity. In his 1838 poem "A Psalm of Life," Henry Wadsworth Longfellow said, "Let the dead Past bury its dead!" but there is much to be said for resurrection. We live and study in an age characterized by myriad approaches to management. Students encounter quantitative, behavioral,

¹ Henry Wadsworth Longfellow, "A Psalm of Life," The Knickerbocker 12(4) (October, 1838), p. 189.

functional, and other approaches in their various management courses. Although such a variety may be intellectually stimulating, it presents students with a fragmented picture of management and assumes that they have the ability to integrate these various approaches for themselves.

In many cases, this burden is far too great. Management history as a separate area of study provides a conceptual framework for integrating the various approaches to management. A study of the past contributes to a more logical, coherent picture of the present. Without a knowledge of the past, individuals have only their own limited experiences as a basis for thought and action. As one scholar commented, History is a "universal experience - infinitely longer, wider, and more varied than any individual's experience." The study of history thus equips students with an appreciation of past answers and present alternatives to the dilemmas of contemporary life. Lawrence distinguished between historical research (inquiry into past persons and events) and historical perspective (using history as raw material for understanding the present). The object of historical perspective is to "sharpen one's vision of the present, not the past It pushes thinking about alternative explanations for phenomena, helps identify more or less stable concepts, and expands research horizons by suggesting new ways of studying old questions." Smith noted: "Reading, exploring, and discussing history can provide students with opportunities to acquire knowledge of their field and its practices, gain wisdom, and develop and use judgment." Present pedagogy can, thereby, be improved, knowledge expanded, and insights gained by examining the lives and labors of the management discipline's intellectual ancestors. By tracing the sources of our ideas about management, we can better understand the nature of work, the nature of human beings, and the nature of organizations. Moreover, in understanding the growth and development of large-scale enterprises, the dynamics of technology, the ebb and flow of cultural values, and the changing assumptions about the nature and nurture of people, we can better equip students with the skills required for future positions of responsibility.

Today is not like yesterday, nor will tomorrow be like today; yet today is a synergism of all our yesterdays, and tomorrow will be the same. Mark Twain reputedly said that "History never repeats itself, but sometimes it rhymes." History teaches many lessons and, as Shakespeare observed, perhaps the most important is: "What's past is prologue."

A Cultural Framework

How have our concepts of managing organizations evolved throughout history? To understand the dynamics of this evolution requires a cultural framework for analyzing the development of management thought. Management is not a closed-end activity as managers make decisions within a given set of cultural values and institutions. Rather, management is an open system in which managers affect, and are affected by, their environments.

Culture is the sum total of a society's "knowledge, belief, art, morals, law, custom, and any other capabilities and habits" that are transmitted from generation to generation. As culture is a very broad subject, the chapters that follow are limited to a consideration of those specific

² Basil H. Liddell Hart, Why Don't We Learn From History? (London: George Allen and Unwin, 1972), p.15.

³ Barbara S. Lawrence, "Historical Perspective: Using the Past to Study the Present," *Academy of Management Review* 9(2) (April 1984), pp. 307, 311.

⁴ George E. Smith, "Management History and Historical Context: Potential Benefits of Its Inclusion in the Management Curriculum," *Academy of Management Learning & Education*, 6(4) (December 2007), p. 524.

⁵ The prefatory phrase "History never repeats itself" does appear in Mark Twain and Charles Dudley Warner, *The Gilded Age: A Tale of To-Day* (Hartford, CT: American Publishing Company, 1874), p. 430. An earlier reference to history's "mystic rhyme" may be found in [Review of *A History of the Church in Russia* by Andrew N. Mouravieff] *The Christian Remembrancer: A Quarterly Review* 10(50) (October 1845), p. 264.

⁶ William Shakespeare, *The Tempest*, Act 2, Scene I.

⁷ Edward B. Tylor, *Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Art, and Custom*, vol. 1 (London: John Murray, 1871), p. 1.

economic, social, political, and technological ideas that influence managing an organization. Human behavior is a product of past and present cultural forces. The discipline of management is likewise a product of the economic, social, political, and technological forces of the past and present. As Bedeian has observed, "past arrangements – institutions, roles, cultural forms – are not simply superseded, but transformed and recombined to produce the present. In this sense, the past repeatedly informs and reinforms the present such that the search for understanding is never finished." Modern students of management may examine present organizations and read contemporary authors, yet all too often have little appreciation for the background of our technologies, political institutions, and economic policies. Management thought did not develop in a cultural vacuum; managers have always found their jobs affected by the existing culture.

In the study of modern management, the past must be examined to see how our communal heritage was established. In practice, the economic, social, political, and technological facets of our culture are closely interrelated and interact to form a cultural framework; they are delineated here and throughout the following pages only for ease of presentation. Further, our attention shall be confined to the portions of our culture that apply most directly to managing an organization, omitting other cultural phenomena, such as art, literature, and music.

The Economic Facet

The economic facet of culture is the relationship between people and resources. Humans or nature may create resources; the term denotes both tangible objects and intangible efforts that may be utilized to achieve some stated end. Physical resources include land, buildings, raw materials, semifinished products, tools, and equipment or other tangible objects. Technology—our understanding of the art and applied science of making and using tools and equipment—has advanced at varying rates in different eras and, consequently, influences how resources are used at any given time in history.

Human thought and effort are also resources because they enable the design, assembly, shaping, and performing of other activities that result in the production of goods or services. The allocation of scarce resources to produce and distribute goods and services has, therefore, been accomplished in various ways throughout history. Heilbroner characterized different methods of allocating resources by tradition, by command, and by market forces. The traditional method of allocating resources operates on past societal precepts under which technology is basically static, occupations are passed down from one generation to the next, agriculture predominates over industry, and social and economic systems remain essentially closed to change. The command method is a central agency (or person) imposing its dictates on an economic system to determine how resources are both allocated and utilized. This economic commander-in-chief may be a monarch, a fascist dictator, or a collectivist central-planning agency that decides what is to be produced, levels of prices and wages, and how economic goods and services are to be distributed. The market method, which Heilbroner noted is a relatively recent phenomenon, relies on an impersonal network of forces and personal decisions to allocate resources. Prices, wages, and interest rates are set by a bargaining process between those who furnish a product or service and those who want it. This provides for best meeting the needs and wants of consumers and no central agency or prior cultural precepts intervene. In actual practice, modern societies employ all three methods of allocating resources. Although our history has been predominantly influenced by tradition and command methods, we will see later that the market

⁸ Arthur G. Bedeian, "Exploring the Past," *Journal of Management History* 4(1) (1998), p. 4. See also Arthur G. Bedeian, "The Gift of Professional Maturity," *Academy of Management Learning & Education* 3(1) (March 2004), pp. 92–98.

⁹ Robert L. Heilbroner, The Making of Economic Society (Englewood Cliffs, NJ: Prentice-Hall, 1962), pp. 10–16.

method, as an economic philosophy, created the need for a formal body of management thought. In brief, technological advancements and the prevailing balance of methods for allocating resources have a significant bearing on how managers go about their jobs. A tradition-directed economy circumscribes the managerial role with prior precepts and a command orientation makes managers executors of decisions made by a centralized authority, but the market system opens the way to the competitive use of resources, which stimulates growth in the supply of goods and services.

The Social Facet

The social facet of culture refers to relations among people in a given culture. Humans do not live alone, but find advantages in forming groups for mutual benefit or for furthering personal goals. In forming groups, people of differing needs, abilities, and values come together. Out of this heterogeneity, some homogeneity must evolve or a group will not survive. Thus, participants form a "contract," which encompasses shared beliefs, attitudes, and behaviors to ensure a group's survival. This unwritten, but nevertheless binding contract includes an implicit agreement regarding how to best combine and coordinate efforts for accomplishing various tasks.

Values, or cultural standards of conduct defining the propriety of a given type of behavior, are another part of social interaction. Thus, ethics in interpersonal relations is an age-old problem. Economic transactions, deeply embedded in social trust, are an integral part of a societal network. Values vary across cultures and eras, and managerial efforts are affected by the relations among individuals and groups and by a culture's prevailing social values.

The Political Facet

The political facet of culture is the relationship between individuals and sovereign states, and includes the legal and political arrangements for establishing social order, as well as the protection of life and property. The absence of social order is anarchy; unless there is some provision for the protection of rational from irrational actors, economic, social, and political chaos will prevail. Where order begins, however, anarchy ends. Political institutions that bring stability take various forms, ranging from a representative government to a monarchy or dictatorship. Political assumptions about the nature of humanity range from a belief in democratic self-government to a need for a ruling elite (or one person) to impose its will on others based on the assumption that people cannot, or will not, govern themselves. Provisions for property, contracts, and justice likewise vary according to the nature of political institutions. In a democracy, people have private property rights, the freedom to enter or not to enter into contracts, and an appeal system for justice. Under a ruling elite, however, the right to hold and use private property is severely restricted, freedom to contract is limited, and justice depends on the whims of those in power. The management of organizations is affected by a culture's political institutions and form of government, by the power to hold or not hold property, by the ability to engage in contracts for the provision of goods and services, and by the appeal mechanisms available to redress grievances.

The Technological Facet

The technological facet of culture is the art and applied science of making tools and equipment. Historians refer to past eons such as the Stone Age, the Iron Age, and the Bronze Age when humans first made tools. Over the intervening centuries, technology has advanced, sometimes rapidly, other times more slowly, giving rise to the world's contrasting cultures.

Technology is a means to an end that can produce beneficial as well as detrimental results. Landes has warned us

that the wresting and exploitation of knowledge are perilous acts, but man must and will know, and once knowing, will not forget . . . the marriage of science and technology are the climax of millennia of intellectual advance. They have also been an enormous force of good and evil, and there have been moments when the evil has far outweighed the good. Still, the march of knowledge and technique continues, and with it the social and moral travail.¹⁰

Perilous as it may be, "the wresting and exploitation of knowledge" has transformed global industry and trade from labor intensive to capital intensive and, ultimately, to knowledge intensive.

Technology often advances slowly in tradition-bound or closed societies because it threatens the status quo. Kieser has written of medieval guilds, which kept

production and selling conditions for all members as equal as possible. No [guild] master should be able to gain an advantage at the expense of his co-masters The master was only allowed to employ a restricted number of journeymen . . . and he was not allowed to choose these men himself . . . Wages and working hours were uniformly regulated. The pursuit of customers was strictly forbidden . . . Innovations were suppressed. 11

Tradition-bound or closed societies that cling to past precepts stifle innovation and offer little incentive to seek new knowledge, to explore, or to experiment. Technologies, their basic science, are limited by the status quo that discourages innovations in education, free inquiry, and taking the risk necessary for the discovery of new things.

The technology facet of culture makes a difference in how organizations are managed, and we will see examples of how it affects the economic, social, and political facets of a nation's culture. By applying science in an artful manner, we have the potential of influencing all facets of our culture. In his First Annual Message to Congress on January 8, 1790, George Washington encouraged the promotion of science, saying, "Knowledge is in every country the surest basis of public happiness." This quest for knowledge, and improvements in technology through advances in science, must be never ending, impelling us to learn, to do better, to live better.

Interacting to form a whole, the economic, social, political, and technological facets of any culture are useful tools for examining the evolution of management thought, as a nation's cultural framework affects its managers and the available means for providing goods and services.

People, Management, and Organizations

We now turn to a consideration of basic elements underlying the study of management as an activity and as a discipline. Even before people began to record their activities, they encountered the necessity of managing their efforts in cooperative endeavors. As an overview, Figure 1.1

¹⁰ David S. Landes, *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from* 1750 to the Present (Cambridge, England: Cambridge University Press, 1969), pp. 555, 524. For a global perspective on the impact of technology on a nation's wealth, see *idem*, *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor* (New York: W. W. Norton, 1998).

¹¹ Alfred Kieser, "Organizational, Institutional, and Societal Evolution: Medieval Craft Guilds and the Genesis of Formal Organizations," *Administrative Science Quarterly* 34(4) (December 1989), p. 553.

¹² George Washington, "Speech of the President of the United States to both Houses of Congress," January 8, 1790, p. 5.
Available online at http://memory.loc.gov/mss/mgw/mgw2/025/1251007.jpg

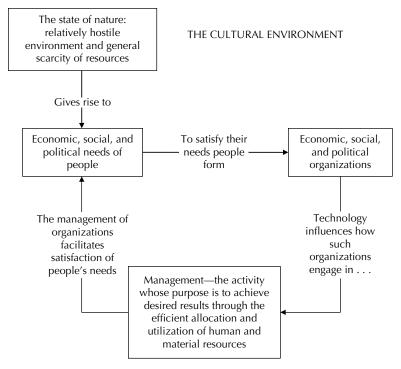


FIGURE 1.1 People, Management, and Organizations.

begins with "the state of nature" and traces the quest for need satisfaction through organizations. Management, an activity essential to organized endeavors, facilitates the efficient allocation and utilization of human and material resources to satisfy human needs.

The Human Being

The human being is the fundamental unit of analysis in the study of history, the study of organizations, and the study of management. Humans have always faced a relatively hostile environment characterized by scarce food supplies, inadequate shelter, and, in general, a paucity of other resources with which to satisfy their manifold needs. Humans are biologically weaker than many other species. To explain their survival, we must look beyond physical prowess for other characteristics that have enabled humans to control and manipulate the natural environment.

The answer to the question of why humans have survived is found in their ability to reason. In the long evolutionary process, it was not always the most physically fit who survived. Rather, it was the most cognitively capable who fashioned tools and weapons, mastered the use of fire, developed the ability to think conceptually, advanced their power of communication, and engaged in group activities that required a marked degree of planning and coordination. These were the people who fashioned clubs and spears for defense, who created implements for tilling the soil, and who cooperated with one another to give humans a differential advantage over their natural enemies.

Paleoanthropologists have constantly pushed our knowledge of humankind further and further into the past.¹³ They have studied the origins of *Homo habilis*, "handy man," who fashioned tools;

¹³ For example, see Donald Johanson and Maitland A. Edey, *Lucy: The Beginnings of Humankind* (New York: Simon and Schuster, 1981).

Homo erectus, who possessed bipedal ability; and Homo sapiens, the thinker. Humans are thinkers, doers, and makers; they are active, creative, and ever changing in their quest to better themselves and their species. Their most basic needs are physiological: food, water, shelter, sleep, and oxygen necessary for physical survival. Beyond these basic needs, social needs most probably arose out of the drive to reproduce and, thus, to select a mate. In turn, families became the most elementary unit forming human groups. With time, survival of families being a shared goal, humans found that they could better protect and enhance their welfare by forming groups or tribes for mutual advantage in gathering food, defense, and child care. As Bronowski concluded: "We are joined in families, the families are joined in kinship groups, the kinship groups in clans, the clans in tribes, and the tribes in nations. This is the most primitive revelation of a hierarchy of organization, layer upon layer that links the present to the past of man's existence." 14

Early humans found that the knowledge and skills of one generation must be transmitted to the next if they were to survive. Such were the elementary beginnings of knowledge transfer through education. In forming groups and living with one another to satisfy their mutual goals, humans needed a way to ensure the viability of their families, kinship groups, clans, tribes, and, ultimately, nations. They formed elementary political units with agreed-upon codes governing economic, social, political, and often religious behavior. Out of their common economic, social, and political needs, organized human activity began.

Organizations and Management

As humans have evolved, so have organizations. Early humans found that they could magnify their own abilities by working with others and could thereby better satisfy their respective needs. Varying individual natural skills and abilities led to the recognition that some people were better at certain tasks than others. Group tasks were, thus, logically differentiated; that is, there was a division of labor to take advantage of natural skills and abilities. Once labor was divided, some agreement had to be reached about how to structure and interrelate various activities to accomplish desired ends. As the number of activities necessary to accomplish an end grew in number, it became necessary to group tasks and develop a hierarchy of authority to assure adequate coordination across activities. Perhaps the wisest, the strongest, the eldest, or the most articulate of a group became its leader, assigning tasks based on skill and ability. In any case, groups had to achieve some unity of agreement about what was to be done, how, and who would be responsible for expending the required effort.

The elements leading to the initial emergence of organizations are essentially the same throughout history. *First*, there had to be a goal, a purpose, an objective, or something to be accomplished. Perhaps it was the annual berry picking, the hunt, the sowing of a crop, or the defense from marauding nomads. *Second*, people had to be sufficiently attracted to a goal so as to participate. They had to perceive that it was in their best interest to share in accomplishing a goal. The genesis of organized group activities can be found in people's attraction to others as a means of satisfying their own individual needs. *Third*, those joining together to form a group required resources necessary for goal accomplishment. Both human and physical resources were required: people with requisite skills and abilities, weaponry, tools, and other implements that supported goal attainment. *Fourth*, the activities of group members had to be structured in such a way as to further goal accomplishment. If each member proceeded without coordinating their efforts, the result would be chaos. *Finally*, as undertakings became complex, groups soon discovered that goal accomplishment was more likely if someone was assigned the task of keeping the whole group on course. Someone had to resolve differences of opinion, decide on strategy and

¹⁴ Jacob Bronowski, *The Ascent of Man* (Boston, MA: Little, Brown and Company, 1973), pp. 95–96.