Detailed Contents

Preface xvii Acknowledgments xxi 1 Scholarship at a Crossroads 1 Content and Connectivity 1 An Opportune Moment 2 Scholarship in Social and Technical Contexts 3 The Data Deluge: Push and Pull 6 Problems of Scale 6 Influences on Scholarship and Learning 8 Networks of Data, Information, and People 10 2 Building the Scholarly Infrastructure 13 Technologies of Information Infrastructure 14 The Internet 14 The World Wide Web 15 The Grid 17 **Digital Libraries** 17 Information Infrastructure for Scholarship 19 19 Terminology National and International Initiatives on Scholarly Infrastructure 21 **UK Infrastructure Initiatives** 21 **U.S.** Infrastructure Initiatives 22 **International Initiatives** 24 **Exemplar Projects and Programs** 25 Where Can the Greatest Benefits Be Realized? 27 -

Big Science, Little Science, Nonscience 28 What's New about e-Research? 30 Conclusions 31 33 **3 Embedded Everywhere** Theory and Policy Frameworks 33 Basic, Applied, and Use-Inspired Research 33 **Open Science** 35 Mertonian Norms 36 Sociotechnical Systems 37 Taking an Information Perspective 39 Information 39 Information Systems 40 Data versus Information 41 Infrastructure of or for Information 42 Infrastructure of Information 42 Infrastructure for Information 42 Setting a Research Agenda 43 4 The Continuity of Scholarly Communication 47 The Many Forms of Scholarly Communication 48 Public and Private, Formal and Informal 48 The Role of Preprints 49 The Role of Conferences 52 Informal and Formal Purposes of Conferences 52 54 Conflicts between Informal and Formal Purposes Uses of Technology in Scholarly Conferences 55 Scholarly Communication as a Sociotechnical System 55 Process versus Structure 56 **Quality Control** 58 Quality Control of Scholarly Content 58 Problems with Peer Review 60 Publication Indicators as Proxies for Quality 63 The Functions of Scholarly Communication 65 Legitimization 66 Dissemination 67 Access, Preservation, and Curation 67

Author Roles and Functions 69 Authors as Writers 69 Authors as Citers and Linkers 70 Authors as Submitters 71 Authors as Collaborators 72 73 Summary 5 The Discontinuity of Scholarly Publishing 75 New Technologies, New Tensions 76 The Pull of New Technologies 77 The Push of Institutional Restructuring 77 Stakeholder Roles in Print Publishing 79 Legitimization in Print 80 **Dissemination** in Print 81 Access, Preservation, and Curation of Print 81 Stakeholder Roles in Internet Access to Scholarly 82 Documents Legitimization in Digital Form 84 Whom Do You Trust? 84 **Registration and Certification** 85 Legitimacy via Selection 86 Dissemination in Digital Form 87 Access, Preservation, and Curation in Digital Form 88 88 A Bit of Digital History Searching, Discovering, and Retrieving 90 Following the Scholarly Trail 92 What Will Be Saved, and by Whom? 95 Convergence and Collision 97 What Constitutes a "Publication"? 98 Open Repositories, Open Archives, Open Access 100Definitions of Open Access 100Motivations for Open Access 101 Technology and Services for Open Access 104 Intellectual Property 105 105 Copyright and Rights Management Copyright and the Public Domain 106 Fair Use and Orphan Works 107

14 July

Commons-Based Approaches 109 110 Economics and Business Models 110 Economics of Scholarly Publishing Business Models for Scholarly Publishing 111 6 Data: Input and Output of Scholarship 115 The Value Chain of Scholarship 116 Value of Data 118 Definitions of Data 119 Levels of Data 121 Sources of Data 122 Policies to Encourage Data Sharing 123 Generation of New Forms of Data 125 Data Collections 126 Growth of Data 127 Interpreting Data 128 The Role of Data in Scholarly Communication 129 Legitimization of Data 130Trust in Data 131 **Registration of Data** 132 Certification of Data 133 **Dissemination** of Data 135 Access, Preservation, and Curation of Data 136 Some History 137 Searching and Finding 138 Permanent Access 139 Weak Links in the Value Chain 140 Reuse of Data 141 Technology and Services 142 Intellectual Property and Economics 142 Profit versus Value 143 Public Domain for Data 145 Open Access, Open Data 146 7 Building an Infrastructure for Information 149 Scholarly Disciplines 150 Disciplinarity and Interdisciplinarity 151 Disciplines, Communities, and Cultures 151

Boundaries, Barriers, and Bridges 152 **Professional Identity** 153 **Scholarly Practices** 154 Seeking and Using Information 155 Information-Seeking Behavior 155 157 **Temporal Factors** Scholarly Artifacts 160 160 Forms and Genres Reading between the Lines 161 Constructing Knowledge 164 Representing Knowledge 164 Tacit Knowledge 165 Making Knowledge Mobile 167 Collaboration and Social Networks 168 Characteristics of Collaboration 169 **Distributed** Collaboration 171 Information in Collaboration 171 Sharing Information Artifacts 172 179 8 Disciplines, Documents, and Data Sciences 180 Information Artifacts in the Sciences 181 Scientific Documents 181 Scientific Data 182 Description and Organization in the Sciences 184 Information Practices in the Sciences 186 Practices Associated with Scientific Documents 186 Practices Associated with Scientific Data 188 Incentives and Disincentives to Build the Content Layer for the Sciences 192 Incentives for Scientists to Share Information 193 Disincentives for Scientists to Share Information 196 Social Sciences 201Information Artifacts in the Social Sciences 202Social Scientific Documents 203Social Scientific Data 204Description and Organization in the Social Sciences 205 ·- 199

Information Practices in the Social Sciences 206Practices Associated with Social Scientific Documents 206 Practices Associated with Social Scientific Data 207Incentives and Disincentives to Build the Content Layer for the Social Sciences 209 Incentives for Social Scientists to Share Information 209Disincentives for Social Scientists to Share Information 210Humanities 212 Information Artifacts in the Humanities 214 Humanistic and Cultural Documents 214 Humanistic and Cultural Data 215 Description and Organization in the Humanities 217 Information Practices in the Humanities 219 Practices Associated with Humanistic and Cultural **Documents** 219 Practices Associated with Humanistic and Cultural Data 220Incentives and Disincentives to Build the Content Layer for 222 the Humanities Incentives for Humanities Scholars to Share Information 222 Disincentives for Humanities Scholars to Share Information 222 Conclusions 225 9 The View from Here 227 Content and Context 228 The Sociotechnical Nature of Information 228 Malleable, Mutable, and Mobile 232Building the Content Layer 233233 Information Institutions Organization and Business Models 236 Publishers 236 Universities 237 **Funding Agencies** 240Information Commons 242Some Solutions and Some Ouestions 243 Legacy Content: Past, Present, and Future 245 The New Becomes the Old 246 Investing in Digital Content 246

Digital Surrogates as Insurance 248 Capacity Building for the Content Layer 249 Rights to Preserve 250 Balancing the Local and the Global 252 Flexible Infrastructure Design 252 Personal Digital Libraries 252 Personalizing Discovery 254 Separating Content, Services, and Tools 254 Distributed, Heterogeneous Content 255 **Rethinking Resource Description** 256 Coherence and Control 257 Generic and Specialized Tools 257 Searching, Discovery, Retrieval, and Navigation 258 Maintaining Coherence 259 Trust in Content 260 Conclusions 261 267 References Index 321

PPN: 267913850 Titel: Scholarship in the digital age : information, infrastructure, and the Internet / Christine L. Borgman. - Cambridge, Mass. [u.a.] : MIT Press, 2007 ISBN: 0-262-02619-8(hbk.)£22.95 hbk. : £22.95 : CIP entry (Oct.); 978-0-262-02619-2 Bibliographischer Datensatz im SWB-Verbund