

## Contents

Series Foreword ix

Acknowledgments xi

Introduction 1

*Fiona Cameron and Sarah Kenderdine*

### **I** *Replicants/Object Morphologies*

1 Rise and Fall of the Post-Photographic Museum: Technology and the Transformation of Art 19

*Peter Walsh*

2 The Materiality of Virtual Technologies: A New Approach to Thinking about the Impact of Multimedia in Museums 35

*Andrea Witcomb*

3 Beyond the Cult of the Replicant—Museums and Historical Digital Objects: Traditional Concerns, New Discourses 49

*Fiona Cameron*

4 *Te Ahu Hiko*: Digital Cultural Heritage and Indigenous Objects, People, and Environments 77

*Deidre Brown*

- 5 Redefining Digital Art: Disrupting Borders 93  
*Beryl Graham*
- 6 Online Activity and Offline Community: Cultural Institutions and New Media Art 113  
*Sarah Cook*
- II** *Knowledge Systems and Management: Shifting Paradigms and Models*
- 7 A Crisis of Authority: New Lamps for Old 133  
*Susan Hazan*
- 8 Digital Cultural Communication: Audience and Remediation 149  
*Angelina Russo and Jerry Watkins*
- 9 Digital Knowledgescapes: Cultural, Theoretical, Practical, and Usage Issues Facing Museum Collection Databases in a Digital Epoch 165  
*Fiona Cameron and Helena Robinson*
- 10 Art Is Redeemed, Mystery Is Gone: The Documentation of Contemporary Art 193  
*Harald Kraemer*
- 11 Cultural Information Standards—Political Territory and Rich Rewards 223  
*Ingrid Mason*
- 12 Finding a Future for Digital Cultural Heritage Resources Using Contextual Information Frameworks 245  
*Gavan McCarthy*
- 13 Engaged Dialogism in Virtual Space: An Exploration of Research Strategies for Virtual Museums 261  
*Suhas Deshpande, Kati Geber, and Corey Timpson*

- 14 Localized, Personalized, and Constructivist: A Space for Online Museum Learning 281  
*Ross Parry and Nadia Arbach*

### III *Cultural Heritage and Virtual Systems*

- 15 Speaking in Rama: Panoramic Vision in Cultural Heritage Visualization 301  
*Sarah Kenderdine*
- 16 Dialing Up the Past 333  
*Erik Champion and Bharat Dave*
- 17 The Morphology of Space in Virtual Heritage 349  
*Bernadette Flynn*
- 18 Toward Tangible Virtualities: Tangialities 369  
*Slavko Milekic*
- 19 Ecological Cybernetics, Virtual Reality, and Virtual Heritage 389  
*Maurizio Forte*
- 20 Geo-Storytelling: A Living Archive of Spatial Culture 409  
*Scot T. Refsland, Marc Tuters, and Jim Cooley*
- 21 Urban Heritage Representations in Hyperdocuments 417  
*Rodrigo Paraizo and José Ripper Kós*
- 22 Automatic Archaeology: Bridging the Gap between Virtual Reality, Artificial Intelligence, and Archaeology 437  
*Juan Antonio Barceló*

List of Contributors 457

Index 461

# Index

- Aboriginal exhibits, 39–40, 42–45, 168
- Affect, 59–64, 266, 272
- Analogon, 50–69
- Appraisal theory, 262–268
- Archaeology
- and automation, 439–447
  - virtual, 334, 437–447
  - and visual models, 446–448
- Architecture, and place, 337–339
- Archives, 247–257
- resources for, 256
- Art conservation, and photography, 27
- Artifacts, and place, 339
- Artificial intelligence, 442–446
- and neural networks, 445–446
- Arts and Crafts movement, 29
- Aura, 29–30, 50, 56–58, 66–67, 134–138, 196–198, 200–204, 349–350
- Benjamin, Walter, 29, 102, 349–350
  - multimedia, 35
- Authenticity, 50, 56–58, 77–78, 349
- Autopoietic system, and virtual reality, 390–392
- Barthes, Roland, 59
- Bateson, Gregory, 395, 399–400, 402–403
- Baudrillard, Jean, 50
- Benjamin, Walter, 22, 50, 66–67, 349–350. *See also* Aura
- Bennett, Tony, 158
- Bergson, Henri, 357
- Blogs, 414
- Bourdieu, Pierre, 55, 142–143
- British Museum, 137–138
- photography, 26
- Bunting, Heath, 119, 120, 124
- Canadian Museum of Civilization, 38, 51
- Chakrabarty, Dipesh, 36–37, 45–46
- Cinemagraphic panoramas. *See* Panoramic vision systems
- City Guides*, 284
- Civic engagement, 134–145
- Classical rhetoric, 262–268
- Cole, Henry, 25
- Collection documentation
- narratives, 54–68
  - personalization, 54–68, 166–178
  - polysemy, 53–54
  - post-modernism, 53–54, 169–172
  - post-structuralism, 53–54, 169–172
  - users, 172–179
  - virtual and augmented reality, 176
- Collection management, 166–187
- cultural issues, 166–169
  - and databases, 169–187, 194–196
  - digital, 194–214
  - indigenous cultures, 166–169
  - thesauri, nomenclatures, and glossaries, 182–183, 197
- Communities, online and offline, 113–128

- Community cocreation, 151  
 and curators, 152–153  
 interactivity, 152–153, 157–161  
 literacies, 149–152
- Computer games, 355–356, 361
- Computers  
 and gestures, 377–378  
 and voice, 378–379
- Contemporary art, 194–214  
 communication, 201–204  
 documentation of, 194–214  
 interactivity, 201–210  
 navigation, 204–209  
 participation, 203–212  
 users, 203–212
- Conversations, 319, 321
- Crimp, Douglas, 51–52
- Cubitt, Sean, 60, 64–65
- Cultural information standards, 223–236  
 preservation, 224–227  
 sociopolitical issues, 227–236
- Cultural institutions, 133–145  
 access, 83–84, 143, 151, 228, 233, 382–383  
 affect of photography on, 23–28  
 digital archives, 226, 247  
 digital art, 103–107, 122–128 (*see also* Digital art)  
 education, 175–178, 281–293  
 factual information versus emotional response, 41–42  
 future of, 198–199  
 ideology of, 136–137  
 inclusion, 141–142  
 indigenous cultures, 45, 53, 68, 80, 167–168  
 interactivity, 143–144, 152, 286–287  
 multimedia installations, 38–47  
 politics of, 45–46, 53  
 role of, 51, 61, 63, 135–136, 155, 198–199, 363  
 and social inclusion, 166–167  
 standardization (*see* Cultural information standards)  
 virtual museums, 80, 210, 261–274
- Curators  
 and documentation, 166–187, 224–225  
 as experience broker, 185  
 role of, 35, 122–127
- Cyber-placemaking, 338, 339
- Daguerre, Jacques, 19–21
- De Certeau, Michel, 357
- Democracy, 45–46
- Dietz, Steve, 100
- Digital art, 93–106, 117. *See also* Contemporary art  
 culture, 119–121  
 curating, 100–104, 123–127  
 definition, 93  
 and documentation (*see* Documentation)  
 interactivity, 96–106  
 and Internet, 116–128  
 interpretive device, as, 94, 101–106  
 and materiality, 117–118  
 and networks, 121–125  
 participation, 118  
 politics, 119–121  
 practices, 116, 118–119
- Digital Cultural Communication, 153
- Digital ecosystems, 390–404
- Digital museums. *See* Cultural institutions
- Digital objects, 49–70, 78–89  
 access, 83–84  
 alteration process, 61–62  
 aura, 57–59, 68  
 concepts of space, 351–364  
 cultural values, 79–89, 352  
 education, 86–87  
 indigenous people, 78–89  
 interactivity, 354  
 legal issues, 87–88  
 materiality, 35–47, 50–54, 102  
 politics of, 54–55  
 repatriation, 83  
 replicant, 49–70, 78–81

- Digital objects (cont.)  
 reproduction, 350  
 surrogate, 52–69
- Digital tools, 383–384
- “Direct manipulation,” 373–374
- Documentation  
 and communication, 201–202  
 and contemporary art, 194–214  
 and cultural heritage, 224–225  
 and digital art, 210  
 meaning of, 199–200  
 and museum collections, 166–187  
 as a work of art, 200–201
- Edison, Thomas, 311–312
- Education. *See* Cultural institutions; Internet
- Electronic Baroque, 310–311
- Experiential learning, 370–371
- FACT, 125–126
- Fagerjord, Anders, 154
- Fenton, Roger, 26–27
- Flâneur*, 314
- Florida Everglades Project, 355
- Geography, virtual. *See* Spatial issues
- Geoscope, 414
- Gestures, computers and, 377–378
- Gibson, Ross, 41, 61
- Gillman, Clive, 125–126. *See also* FACT
- Glasgow Directory, 419
- Glasgow Story, 419
- Grosz, Elizabeth, 357
- Gurian, Elaine Heumann, 63, 140
- Haraway, Donna, 84
- Harwood, Graham, 95, 102, 125
- Hayles, Katherine, 268
- Hein, George, 138
- Hologram, 60–61
- Hooper-Greenhill, Eilean, 53–54, 169, 171
- Human-computer interface, 373, 375  
 implementation, 380–382
- Hyperdocuments, 418–433
- Hyper-reality, 154–161
- Installations, multimedia, 36. *See also* Multimedia
- Internet, 30–31, 113–128, 141, 156. *See also* Digital  
 art  
 collections documentation, 165–187  
 colonizing effect of, 232  
 online learning, 281–293, 419
- Inverse engineering, 438–439
- Jameson, Fredric, 161
- J. Paul Getty Museum, 58–59
- Koori. *See* Aboriginal exhibits
- Laboratory of Urban Analysis and Digital  
 Representation. *See* LAURD-PROURB/UFRJ
- LAURD-PROURB/UFRJ, 421–431
- Leadbeater, Charles, 288–289
- Levinson, Paul, 154
- Lévy, Pierre, 64, 418
- Literacy, “new,” 150–151, 230
- Locative media, 409–411
- MacDonald, George, 38, 51
- Macdonald, Sharon, 138
- Making the Modern World (MMW), 286–287
- Manovich, Lev, 54, 97, 105, 117, 173, 314
- Maori, 53, 78–89, 167, 230
- Map, as digital code, 397
- Material culture, 49–70
- McLuhan, Marshall, 51, 65
- Melbourne Museum. *See* Museum Victoria
- Michelangelo’s *David*, 65–66
- Miniature portrait painting, 22
- “Mobile Scout,” 113–114



- Moving Here*, 141–142, 287
- Multimedia. *See also* Contemporary art  
 affect, 41–47  
 and community engagement, 151  
 education, 205–206  
 form of, 36  
 interpretation, 37, 43–45  
 museums, 35–47  
 object as, 38–40  
 significance of, 35
- Munslow, Alun, 170–171
- Museums. *See* Cultural institutions
- Museum Victoria, 39, 318
- Naimark, Michael, 312, 313
- National Museum of American History, 62
- Net art. *See* Digital art
- Networks  
 open information systems, 253  
 Preservation of digital cultural heritage resources,  
 250–253
- Neural networks, 443–446
- New media. *See* Digital art; Multimedia
- New museology, 37–45, 64–69, 133–145, 165–187
- Nowotny, Helga, 248–249
- Oettermann, Stephen, 307, 309
- Optical devices. *See* Panoramic vision systems
- Original versus copy. *See* Digital objects
- Panofsky, Erwin, 316
- Panoramic vision systems, 301–323  
 history, 303–308  
 software, 313  
 technology, 322  
 and virtual heritage, 316–322  
 and virtual reality, 312, 420  
 Web-based, 313
- Paul, Christiane, 98–100
- Perception, 399–400
- Personalization, 172–179, 268–274
- Perspective, 315
- Photography  
 art, 19–21, 28, 51  
 history of, 19–28  
 Internet, 30–31  
 museums, 23–28, 31, 51  
 North American museums, 27  
 and panorama, 305–306  
 portraits, 22  
 reproducing works of art, 23, 50  
 truth, 22
- Picasso's *La Vie*, 206
- Place  
 architecture, 337, 338, 339  
 artifacts, 339  
 construction and reconstruction, 342–343  
 creation of, 335–344  
 and cultural functions, 340–341  
 “cyber-placemaking,” 338, 339  
 virtual. *See* Virtual place
- Politics, and museums, 45–46
- Powerhouse Museum, 57, 58, 60
- Presence  
 cultural, 316–322, 334–344  
 of the object, auratic, 54–64  
 in virtual environments, 314–315, 349–364
- Preservation  
 contextual information framework for, 251–257  
 digital media, of, 246–257  
 and panorama, 317  
 and sociotechnical networks, 249
- Propaganda, and panorama, 308
- Remediation, 154–161
- Repatriation, 83
- Reproductive engraving, 22
- Rio-H, 431–432
- Robotics, 440–441
- Science Museum, London, and digital art, 95
- Schlereth, Thomas, 53

- SFMOMA, 103–104, 105, 205
- Shedroff, Nathan, 152
- Smithsonian Institution, 139
- Sociology, and culture, 142
- Sontag, Susan, 22, 55–56
- South Kensington Museum, 24–26
- Spatial issues, in virtual heritage, 349–364
- Stereoscopic, and panoramas, 309, 318–322
- Stewart, Susan, 43, 63
- Storytelling, 412–413
- Sullivan, Robert, 77, 80
- Sustainability, 245–258
- Talbot, Henry Fox, 19–21
- “Tangialities,” 370–385
- Taonga (cultural treasures), 78–84, 167
- Tate Gallery, 95, 120, 124, 125, 203, 288, 293
- Technology
- access to, 149–150
  - art, 96
  - convergent, 149–150
  - indigenous peoples, 78–89
  - and literacy, 150–151
  - and museum collections, 172
- Themescaping Virtual Collections Study, 174
- Three dimensional
- interactivity, 392–394
  - modeling, 350–353
  - scanning, 80–82
  - visualization, 184
- Tourism, and digital representation, 362–363
- Trant, Jennifer, 155
- Travel, virtual, and panorama, 308
- Urban heritage, 417–433
- and digital representation, 420–433
- Urry, John, 314
- Victoria and Albert Museum. *See* South Kensington Museum
- Vienna Walk, 207, 209
- Virtual motion, and trajectories, 356
- Virtual Museum of Canada, 269, 270, 273, 289
- Virtual museums. *See* Cultural institutions
- Virtual objects. *See* Digital objects
- Virtual versus physical, 360–361, 371
- Virtual place, 334–344
- creating, 335–344
  - cyber-geography, 397
  - and heritage, 334–335
  - interactivity, 334, 340–341, 392–394
  - and role playing, 334
- Virtual versus real. *See also* Digital objects
- relationship between, 391
- Virtual Room, The. *See* Museum Victoria
- Virtual versus tactile, 375–377
- Virtual versus tangible. *See* “Tangialities”
- Virtual Transfer Musée Suisse, 204
- Visual Media Centre’s History of Architecture Web site, 318
- Voice, computers and, 378
- Walker Arts Center, 94
- Wallace, Michael, 159–160
- Web sites. *See also* Internet
- archiving of, 121
  - constructivist, 285
  - museums, 36, 38, 165, 174, 177, 209–210, 293, 382–383
  - and panoramas, 313, 317
- Witcomb, Andrea, 52, 68, 69, 137
- World Heritage Sites, 318
- World Wide Web. *See* Internet