## Acknowledgments ix

Introduction. Thinking with Computers 1
JANET ABBATE AND STEPHANIE DICK

## PART I. ABSTRACTIONS

- 2. Centrists against the Center: The Jeffersonian Politics of a Decentralized Internet 40

  MARC AIDINOFF
- 3. Beyond the Pale: The Blackbird Web Browser's Critical Reception 60

  ANDRÉ BROCK
- **4.** Scientology Online: Copyright Infringement and the Legal Construction of the Internet 84

  GERARDO CON DIAZ
- Patenting Automation of Race and Ethnicity Classifications: Protecting Neutral Technology or Disparate Treatment by Proxy? 102 TIFFANY NICHOLS
- 6. "Difficult Things Are Difficult to Describe": The Role of Formal Semantics in European Computer Science, 1960–1980 126

  TROY KAIGHIN ASTARTE
- 7. What's in a Name? Origins, Transpositions, and Transformations of the Triptych Algorithm—Code—Program 146

  LIESBETH DE MOL AND MAARTEN BULLYNCK

- 8. The Lurking Problem 169 SCOTT KUSHNER
- The Help Desk: Changing Images of Product Support in Personal Computing, 1975–1990 189
   MICHAEL J. HALVORSON
- 10. Power to the Clones: Hardware and Software Bricolage on the Periphery 208

## PART II. EMBODIMENTS

- Indigenous Circuits: Navajo Women and the Racialization of Early Electronic Manufacture 231
- 12. Inventing the Black Computer Professional 257 KELCEY GIBBONS
- 13. The Baby and the Black Box: A History of Software, Sexism, and the Sound Barrier 277
  MAR HICKS
- 14. Computing Nanyang: Information Technology in a Developing Singapore, 1965–1985299JIAHUI CHAN AND HALLAM STEVENS
- 15. Engineering the Lay Mind: Lev Landa's Algo-Heuristic Theory and Artificial Intelligence 319
  EKATERINA BABINTSEVA
- 16. The Measure of Meaning: Automatic Speech Recognition and the Human-Computer Imagination 341 XIAOCHANG LI
- 17. Broken Mirrors: Surveillance in Oakland as Both Reflection and Refraction of California's Carceral State 360
  CIERRA ROBSON
- **18.** Punk Culture and the Rise of the Hacker Ethic 380 ELYSE GRAHAM
- 19. The Computer as Prosthesis? Embodiment, Augmentation, and Disability 399
  ELIZABETH PETRICK

20. "Have Any Remedies for Tired Eyes?": Computer Painas Computer History 416

LAINE NOONEY

Afterword. Beyond Abstractions and Embodiments 435 STEPHANIE DICK AND JANET ABBATE

Contributors 443 Index 447