## Contents

1. **A Brief History of SHAR**
   Richard R. Fay and Arthur N. Popper
   1

2. **Structures, Mechanisms, and Energetics in Temporal Processing**
   William E. Brownell and Paul B. Manis
   9

3. **Human Auditory Cortex: In Search of the Flying Dutchman**
   John F. Brugge
   45

4. **From Cajal to the Connectome: Building a Neuroanatomical Framework for Understanding the Auditory System**
   Nell Beatty Cant
   65

5. **Recording from Hair Cells**
   Ruth Anne Eatock
   79

6. **Three Decades of Tinnitus-Related Research**
   Jos J. Eggermont
   95

7. **The Sense of Hearing in Fishes**
   Richard R. Fay
   107

8. **A Quarter-Century’s Perspective on a Psychoacoustical Approach to Loudness**
   Mary Florentine
   125

9. **Nonsyndromic Deafness: It Ain’t Necessarily So**
   Thomas B. Friedman and Sheikh Riazuddin
   149

10. **Evolving Mechanosensory Hair Cells to Hearing Organs by Altering Genes and Their Expression: The Molecular and Cellular Basis of Inner Ear and Auditory Organ Evolution and Development**
    Bernd Fritzsch and M.-Dominique Crapon de Caprona
    163
11 The Implications of Discharge Regularity: My Forty-Year Peek into the Vestibular System ......................................................... 183
Jay M. Goldberg

12 Aging, Hearing Loss, and Speech Recognition: Stop Shouting, I Can’t Understand You ....................................................... 211
Sandra Gordon-Salant

13 Cochlear Mechanics, Otoacoustic Emissions, and Medial Olivocochlear Efferents: Twenty Years of Advances and Controversies Along with Areas Ripe for New Work ..................... 229
John J. Guinan Jr.

14 Examining Fish in the Sea: A European Perspective on Fish Hearing Experiments ............................................................ 247
Anthony D. Hawkins

15 The Behavioral Study of Mammalian Hearing ............................................... 269
Henry E. Heffner and Rickye S. Heffner

16 Hearing in Insects: The Why, When, and How ........................................... 287
Ronald R. Hoy

17 The Cognitive Auditory System: The Role of Learning in Shaping the Biology of the Auditory System .................................... 299
Nina Kraus and Trent Nicol

18 Fundamentals of Hearing in Amniote Vertebrates ......................... 321
Geoffrey A. Manley

19 Directional Hearing in Insects and Other Small Animals: The Physics of Pressure-Difference Receiving Ears ................................ 343
Axel Michelsen and Ole Næsbye Larsen

20 Distributed Cortical Representation of Sound Locations ................. 361
John C. Middlebrooks

21 Pitch: Mechanisms Underlying the Pitch of Pure and Complex Tones .................................................................................. 379
Brian C.J. Moore

22 Unavoidably Delayed: A Personal Perspective of Twenty Years of Research on a Sound Localization Cue ............................. 403
Alan R. Palmer

23 Size Matters in Hearing: How the Auditory System Normalizes the Sounds of Speech and Music for Source Size ............... 417
Roy D. Patterson and Toshio Irino
24 A Changing View of the Auditory System Obtained from the Ears of Bats ................................................................. 441
George D. Pollak

25 From Cave Fish to Pile Driving: A Tail of Fish Bioacoustics .......... 467
Arthur N. Popper

26 Current Topics in the Study of Sound Conduction to the Inner Ear .............................................................................. 493
John J. Rosowski, Hideko H. Nakajima, and Jeffrey T. Cheng

27 From Degenerative Debris to Neuronal Tracing: An Anterograde View of Auditory Circuits .......................................... 513
David K. Ryugo

28 Adventures in Bionic Hearing ................................................................ 533
Robert V. Shannon

29 My Dull Deaf Ears: Four Millennia of Acquired Hearing Loss ........ 551
Jochen Schacht

30 What’s the Use of Genetics? ................................................................. 569
Karen P. Steel

31 Advances in the Understanding of Binaural Information Processing: Consideration of the Stimulus as Processed ................. 585
Constantine Trahiotis and Leslie R. Bernstein

32 Temporal Processing: Observations on the Psychophysics and Modeling of Temporal Integration and Temporal Resolution .... 601
Neal F. Viemeister

33 Psychoacoustics and Auditory Perception ............................................ 611
William A. Yost

Appendix: The First 49 Volumes! ............................................................... 633
Perspectives on Auditory Research
Popper, A.N.; Fay, R.R. (Eds.)
2014, XIII, 667 p. 122 illus., 78 illus. in color., Hardcover