

CONTENTS

LIST OF CONTRIBUTORS	xi
FOREWORD	xiii
PREFACE	xv
CONTENTS OF OTHER VOLUMES	xvii

PART I. INTRODUCTION AND OVERVIEW

Chapter 1. History of Psychophysics and Judgment

F. Nowell Jones

I. Fechnerian Psychophysics	2
II. Opposing Development in Psychophysical Measurement	7
III. The Threshold Concept	11
IV. Origin and Rise of the "Direct Methods" of Psychophysics	14
V. Special Topics	18
VI. Final Comments	19
References	20

PART II. PERCEPTUAL CHOICE AND JUDGMENT

Chapter 2. Attention: The Processing of Multiple Sources of Information

W. R. Garner

I. Introduction	23
II. Intermodality Attention	33

III. Visual Attention	36
IV. Auditory Attention	46
V. Attention and Meaning	51
VI. Other Information Combination	52
VII. Response Competition	54
VIII. Theories in Conclusion	55
References	56

Chapter 3. Memory Processes and Judgment

Arthur Sandusky

I. Introduction	61
II. Delayed Comparisons	64
III. Identifications	75
IV. Conclusion	81
References	81

Chapter 4. Psychological Decision Mechanisms and Perception

Eugene Galanter

I. Introduction	85
II. The Psychological Trace	87
III. The Statistical Trace	93
IV. Desire and Percept	101
V. Psychophysics and Pay-Offs	104
VI. The Value of Money	111
VII. Concluding Expectations	118
References	122

Chapter 5. Contextual Effects: A Range-Frequency Analysis

Allen Parducci

I. Introduction	127
II. Range Effects	129
III. Frequency Effects	133
IV. A Range-Frequency Model	135
V. Comments	139
References	140

Chapter 6. Personality and Social Effects in Judgment

Harry S. Upshaw

I. Introduction	143
II. Social Functions of Judgment	144
III. The Relationship of Personality and Social Psychology to the Psychology of Judgment	164
References	165

PART III. MEASUREMENT MODELS AND APPLICATIONS

Chapter 7. Stimulus and Response Measurement

E. W. Holman and A. A. J. Marley

I. Introduction	173
II. Algebraic Models	175
III. Probabilistic Models	188
References	207

Chapter 8. Algebraic Models in Perception

Norman H. Anderson

I. Introduction	215
II. Linear Models and Averaging Models	220
III. Multiplying Models	259
IV. Psychological Measurement	280
References	291

Chapter 9. Detection, Discrimination, and Recognition

R. Duncan Luce and David M. Green

I. Introduction	300
II. Classification Scheme	302
III. Theories for Fixed-Interval Designs	304
IV. Operating Characteristics and Psychometric Functions for Fixed-Interval Designs with Two Stimuli	311
V. Nonstationary Response Processes	321

VI. Theories for Free-Response Data	325
References	332

PART IV. SCALING

Chapter 10. Overview of Psychophysical Scaling Methods

F. Nowell Jones

I. Introduction	343
II. The Indirect Methods	344
III. The Direct Methods	349
References	358

Chapter 11. Perceptual Magnitude and Its Measurement

S. S. Stevens

I. Introduction	361
II. Fechner's Law	362
III. The Power Law	363
IV. Cross-Modality Matching	364
V. The Role of Exponents	367
VI. Neurelectric Power Functions	370
VII. Two Kinds of Perceptual Continua	371
VIII. Category Scale	373
IX. Virtual Exponents	374
X. Magnitude Estimation of Intervals	376
XI. Production of Sums	378
XII. The Partition Puzzle	378
XIII. Thresholds and the NQ	381
References	387

PART V. MULTIDIMENSIONAL SCALING FOR MEASUREMENT OF HUMAN PERCEPTION

Chapter 12. Multidimensional Perceptual Models and Measurement Methods

J. Douglas Carroll and Myron Wish

I. Introduction	391
II. Theoretical and Mathematical Considerations	395
III. Methods Based on Non-Euclidean Metric	418
References	443

Chapter 13. Applications of Individual Differences Scaling to
Studies of Human Perception and Judgment

Myron Wish and J. Douglas Carroll

I. Introduction	449
II. The INDSCAL Model	450
III. Introduction to Applications	453
IV. A Reanalysis of Helm's Color Perception Data	453
V. Perception of Colors Differing in Hue, Value, and Chroma	458
VI. Perception of Rhythm and Accent in Words and Phrases	462
VII. Perception of Acoustically Degraded Consonants	470
VIII. Perceptions of Nations: Subgroup and Task Variation	475
Summary	487
References	488

Chapter 14. Applications of Multidimensional Scaling
in Perception

Tarow Indow

I. Multidimensional Scaling (MDS)	493
II. Examples of Application in Perception	501
III. Significance of Multidimensional Scaling in Studies of Perception	516
References	525
AUTHOR INDEX	533
SUBJECT INDEX	547