

CONTENTS

PREFACE *xi*

CHAPTER ONE

INTRODUCTION 1

Joachim F. Wohlwill

Curiosity, Imagination, and Play: Communality and Interrelationships 2

Recent and Contemporary Influences 8

The Present Volume in Context 14

Towards a Viable Developmental Approach
to the Study of Exploration, Imaginative Activity, and Play 16

References 18

PART ONE

OVERVIEW OF THE PRESENT AND THEORETICAL PROBLEMS

CHAPTER TWO

MOTIVATIONAL ASPECTS OF EXPLORATORY BEHAVIOR 24

Josef A. Keller

Specificity versus Generality 26

The Influence of Dispositional Factors 28

Exploration and Emotion 30

Exploration: Intrinsic or Extrinsic? 33

Development of Exploratory Behavior and Its Motivation 35

Concluding Remarks 37

Summary 38

References 38

CHAPTER THREE

EXPLORATION AND PLAY: RESEARCH AND PERSPECTIVES
IN DEVELOPMENTAL PSYCHOLOGY 43

Hans-Georg Voss

Possible Distinctions Between Exploration and Play 44

Development of Exploration and Play
in a Microgenetic Perspective 46

Development of Exploration and Play
in an Ontogenetic Perspective 48

Conclusions 52

Summary 56

References 56

**CHAPTER FOUR
VARIETIES OF EXPLORATORY ACTIVITY
IN EARLY CHILDHOOD 59**

Joachim F. Wohlwill

Exploration as Search for and as Examination of Stimuli	60
Different Modes of Response to Stimuli During Exploration	64
A Developmental Perspective	67
The Significance of Exploratory Activity: Toward a Broader Perspective	70
The Need for an Individual-Difference Focus	72
Conclusion	74
Summary	75
References	75

**CHAPTER FIVE
EXPLORATION AND ATTRIBUTION
IN A DEVELOPMENTAL CONTEXT 78**

Dietmar Görnitz

Curiosity and the State of Knowledge: A Collage	79
Introduction and Overview	80
Exploration and Attribution as an Area for Developmental Psychology	82
Types of Investigations and Paradigms: Evidence from White's and Harter's Concept of Competence	94
Summary	100
References	100

**PART TWO
EMPIRICAL RESEARCH AND
METHODOLOGICAL ISSUES: EXPLORATION**

**CHAPTER SIX
EXPLORATION IN AN EVERYDAY CONTEXT:
SITUATIONAL COMPONENTS AND PROCESSES IN CHILDREN
AND ADULTS 106**

Dietmar Görnitz

Process Orientation and Research Dilemmas	107
Pilot Study of Exploration in an Everyday Context	113
The Conceptual Framework of Components and Processes	115
Summary	123
References	124

CHAPTER SEVEN**THE DEVELOPMENT OF EXPLORATORY BEHAVIOR
IN THE FIRST FOUR YEARS OF LIFE 126***Heidi Keller and Axel Schölmerich, Delia Miranda,
and Gudrun Gauda*

Exploratory Behavior Development in the First Four Years	127
Method and Results	130
The Development of Exploration	143
Conclusions	146
Summary	148
References	149

CHAPTER EIGHT**AN EMPIRICAL STUDY OF EXPLORATION-PLAY
SEQUENCES IN EARLY CHILDHOOD 151***Hans-Georg Voss*

Differences Between Exploration and Play in Terms of Action Theory	152
Study I: The Anticipation of a Behavioral Result	
A Microanalytic Approach to Exploration-Play Sequences	155
Study II: Exploration, Play, and Symbolic Behavior	
from 13 to 19 Months	164
Concluding Remarks	173
Summary	175
References	177

CHAPTER NINE**SUBJECTIVE UNCERTAINTY AND EXPLORATORY
BEHAVIOR IN PRESCHOOL CHILDREN 179***Klaus Schneider*

Visual Exploration	182
Manipulatory Exploration	185
Conclusions	194
Summary	195
References	196

CHAPTER TEN**ASKING QUESTIONS: AN EXPRESSION
OF EPISTEMOLOGICAL CURIOSITY IN CHILDREN 198***Matthias Moch*

The Study	201
Summary	210
References	211

PART THREE
EMPIRICAL RESEARCH AND METHODOLOGICAL ISSUES:
PLAY AND IMAGINATION

CHAPTER ELEVEN

THE EMERGENCE OF PLAY IN PARENT-INFANT INTERACTIONS 214

Mechthild Papoušek, Hanuš Papoušek, and Betty J. Harris

The Way to the Origins of Play	215
Play and the Acquisition of Knowledge	219
Playfulness in Interactions Between Young Infants and Parents	227
A Caveat	241
Summary	242
References	243

CHAPTER TWELVE

THE RELATIONSHIP BETWEEN SYMBOLIC AND MANIPULATIVE (OBJECT) PLAY 247

Miranda Hughes

The Classification of Manipulative Play	248
Experiment I: Exploration versus Play as Mediators of Problem Solving	248
Experiment II: The Role of Play in Divergent Thinking	252
Classification of Symbolic Play	254
Implications for a General Classification of Play	255
Summary	256
References	256

CHAPTER THIRTEEN

ANALYSIS OF SPONTANEOUS PLAY ACTIVITIES IN EVERYDAY SITUATIONS WITHIN MIXED AGE GROUPS 258

Irene Burtchen

The Concept of Action	260
Application of Action Theory to the Concept of Play	262
Study 1	263
Extension of the Classification System	270
Study 2	272
Concluding Remarks	277
Summary	278
References	278

CHAPTER FOURTEEN**PRETEND PLAY: CREATIVITY AND CONSCIOUSNESS 281**
Greta G. Fein

Referential Freedom	283
Denotative License	286
Affective Relations	291
Sequential Uncertainty	294
Self-Mirroring	296
A Theoretical Overview	298
Summary	302
References	303

CHAPTER FIFTEEN**THE SYMBOLIC PRODUCTS OF EARLY CHILDHOOD 305**
Howard Gardner and Dennis Wolf

Traditional Views of Exploration and the Cognitive Revolution	306
An Approach in Terms of Symbol Systems	307
A Study of Symbolic Development	308
Streams and Waves of Symbolization	310
A General Portrait of Symbolic Development	312
Mediating Between Biology and Culture	319
Summary	323
Concluding Comments	321
References	323

CHAPTER SIXTEEN**EMOTIONAL COMPONENTS OF ACTION: THEIR ONTOGENY
AS REFLECTED IN ACHIEVEMENT BEHAVIOR 326**
Heinz Heckhausen

The Emotional System in a New Perspective	327
Achievement Behavior and Its Motivation	328
The Ontogenesis of Self-Evaluative Emotions	330
The Earliest Reactions of Success and Failure	330
The Search for the Simplest (Earliest) Standards of Excellence	333
Outcome-Centering as an Ontogenetic Template	334
Self-Reference as an Ontogenetic Template	338
Three Stages of Activity Motivation and the Origins of Achievement Behavior	341
The Ontogenesis of Self-Evaluative Emotions Revisited	343
The Three Stages as Analogs for Three Motivational Goal Levels	344
Summary	346
References	347

**PART FOUR
CONCLUSIONS**

**CHAPTER SEVENTEEN
CONCLUDING OBSERVATIONS
ABOUT CURIOSITY AND PLAY 350**
Dietmar Görnitz

Stories of Barbican: Real and Retold 351

What Interests Psychologists 352

Glossary of Quotations 371

References 371

ABOUT THE AUTHORS 374

AUTHOR INDEX 379

SUBJECT INDEX 389