

Contents

Preface xi

1. Cognition and Creativity

Introduction	1
Creativity and Intelligence	2
Analogical Thinking and Metaphor	11
Transformational Capacity	14
Problem Solving	15
Problem Finding	16
Stage Models of Creative Cognition	21
Restructuring and Insight	24
Experience, Expertise, Information, and Insight	27
Intuition	28
Unconscious Processes and Creative Cognition	29
Perception and Creativity	33
Synaesthesia	34
Mindfulness	34
Overinclusive Thinking	35
Conclusions	37

2. Developmental Trends and Influences on Creativity

Introduction	39
Trends and Stages of Development	40
Peer Status and Creativity	61
Adult Development	62
Conclusions	65

3. Biological Perspectives on Creativity

Introduction	69
Hemispheric Asymmetry and the Split Brain	71
Handedness and Hemisphericity	74
Brain Waves and the Electroencephalogram	75
Prefrontal Cortex	77
Hierarchies within the Brain	83
The Cerebellum and Creativity	84
The Emotional Brain	87
Manipulations of the Human Brain	90

The Brain of Albert Einstein	91
Altered States and Brain Function	92
Different Tasks, Different Structures, and Networks	97
Genetic Basis of Creative Potential	98
Conclusions	103

4. Health and Clinical Perspectives

Introduction	109
Affective Disorders	111
Affect and Mood	113
Suicide	116
Stress	120
Anxiety	122
Alcoholism and Drug Abuse	124
Primary and Secondary Process	125
Psychosis and Psychoticism	129
ADHD and Creativity	132
Physical Impairments	137
Adaptability and Maladaptations	137
Encouraging Creativity	140
Self-Actualization and the Courage to Create	141
Conclusions	142

5. Social, Attributional, and Organizational Perspectives

Introduction	145
Social Influences on Environments and Settings	146
Social Judgment	147
Concerns with Social and Attributional Perspectives	148
Bias in Social Judgment	150
Collaboration and Creativity	151
Competition and Creativity	152
Person–Environment Interactions	153
Professional Marginality	155
Organizational Theories	156
Organizational Climate	156
Leaders and Leadership	161

Organizational Attitude	161
Communitarianism and Creativity	163
Aggregate Creativity and Society at Large	163
Human Capital and the Creative Class	166
Conclusions	168

6. Educational Perspectives

Introduction	171
The Ideal Student	173
Implicit Theories of Teachers	177
Teaching Experience	179
Classroom Environment and Setting	180
Teachers and Mentors	182
Ego Strength and Self-Efficacy	184
Creative Attitudes	185
Enhancing Imagery and Artistic Skills	186
Problem Finding and Education	186
Remote Models	187
Brainstorming	188
Information and Creativity	190
Explicit Instructions	192
Learning Theories	193
Goodbye Teacher	197
Generalization and Maintenance	199
Meta-Cognition	200
Disadvantaged Children and Reinforcement	201
Gifted Students	202
Conclusions	203

7. History and Historiometry

Introduction	205
Historical Analyses	206
Prehistory	208
<i>Zeitgeist</i> as Historical Process	209
A Genius Ahead of His or Her Time?	211
Multiple Discoveries and Simultaneities	211
Tools and Creativity	214
Lamarckian Evolution and Change	217
Domain Differences and Domain-Specific <i>Microgeister</i>	218
Creating our Sense of Self	219
Economic Changes Influencing Culture and History	219
Creativity in Portland, Oregon	221
Serendipity	222
War and Religion	223
Trigger Effects and Emergenesis	224
Matthew, Pygmalion, and Founder Effects	225

The Individual in History	226
Limitations and Disadvantages of the Historical Approach	234
Productivity	235
Reputational Paths	235
Art History	241
Romanticism	245
Creativity in Social Context	246
Conclusions	247

8. Culture and Creativity

Introduction	251
Collectivism and Creativity	251
Families, Education, and Values	253
Cross-Cultural Comparison Error	254
Stop Rules, Conventions, and Cultural Inhibition	254
Tolerance, Talent, and Technology	256
Empirical Studies	257
Family and Education	260
Cultural Traditions and Creativity	260
Creativity in Organizations and Business	260
Cultural Products and Processes	260
Implicit Theories	261
Cultural Metaphors for Creativity	262
Conclusions	263

9. Personality and Motivation

Introduction	265
Personality Assessment and Research	267
Longitudinal Studies	271
Personality of Art Students	273
Autonomy, Independence, and Nonconformity	274
Self-Control	275
Controlled Weirdness	275
Deviance	275
Psychoticism	276
Impulsivity and Adventurousness	276
Contrarianism	277
Childlike Tendencies, Playfulness, Daydreaming, and Paracosms	279
Perseverance and Persistence	280
Openness to Experience	281
Anxiety	283
Tolerance of Ambiguity	283
Sensitivity	284
Confidence	285
Self-Promotion	288

Introversion 288
Paradoxical Personalities and Antinomies 289
Self-Actualization 291
Motivation 292
Values 295
Creative Personal Identity and Creative Personal
Efficacy 298
Values, Risk Tolerance, and Psychological
Androgyny 299
Conclusions 300

10. Creativity and Politics

Creative Political Products 304
Which Specific Political Factors Influence
Creativity? 305
Individualism and Freedom 308
Political Events 310
Conservatism 311
Conclusions 312

11. Creativity and Philosophy

Philosophy in Everyday Decision Making 318
Subjectivity and Objectivity 320
Existentialism and the Creative Synthesis
of Opposites 321
Transcendence 322
Metaphysics and the Creative Process 323
Philosophy of Science 324
Romanticism 326
Philosophy and Art 328
Pragmatism 330
Conclusions 331

12. Enhancement and the Fulfillment of Potential

Introduction 335
Tactical Creativity and Metacognition 338
Shift Perspectives 340
Turn the Situation Upside Down 340
Find or Apply an Analogy 341
Borrow, Adapt, or Steal Tactics 342
Consider the Natural World 344
Simplify 346
Experiment 347
Deviation Amplification 349

Persistence 350
Travel 350
Question Assumptions 352
Redefine the Problem or Situation 353
Keep an Open Mind 354
Contrarianism 355
Don't be a Damn Fool 357
Let it Happen 359
Avoidance Tactics 360
Flexible Use of Tactics 360
Programs and Multiple Step Methods for
Creative Thinking 361
IDEAL 364
Tactics for Organizations 367
Competition 371
Enhancement in the Classroom 372
Creativity and Education of Older Adults 374
Tactics Specifically for Discovery 375
Techniques for Invention 377
TRIZ 379
Analyses of Enhancement Efforts 382
Conclusions 385

13. Conclusion: What Creativity is and What it is Not

Introduction 389
Imagination 390
Originality 393
Innovation and Creativity 395
Invention Versus Creativity 405
Discovery and Creativity 407
Discovery of Chaos 407
Serendipity and Chance 409
Creativity as Irrational or Rational 411
Pseudo-Creativity 413
Art and Mating Display and the Reproductive
Benefits 416
Flexibility 418
Proactive Creativity 418
Distribution of Creative Talents 420
Conclusions 425
Final Comments 427

References 429

Index 485