

# Contents

<i>List of Figures</i>	page viii
<i>List of Tables</i>	xi
<i>List of Contributors</i>	xii
<i>Acknowledgments</i>	xiv

<b>Introduction</b>	<b>1</b>
---------------------	----------

REX E. JUNG AND OSHIN VARTANIAN

## **Part I Fundamental Concepts**

<b>1 Creative Ideas and the Creative Process: Good News and Bad News for the Neuroscience of Creativity</b>	<b>9</b>
---	----------

DEAN KEITH SIMONTON

<b>2 Homeostasis and the Control of Creative Drive</b>	<b>19</b>
--	-----------

ALICE W. FLAHERTY

<b>3 Laterality and Creativity: A False Trail?</b>	<b>50</b>
--	-----------

MICHAEL C. CORBALLIS

<b>4 The Neural Basis and Evolution of Divergent and Convergent Thought</b>	<b>58</b>
---	-----------

LIANE GABORA

## **Part II Pharmacology and Psychopathology**

<b>5 Stress, Pharmacology, and Creativity</b>	<b>73</b>
---	-----------

DAVID Q. BEVERSDORF

<b>6 Functional Neuroimaging of Psychedelic Experience: An Overview of Psychological and Neural Effects and their Relevance to Research on Creativity, Daydreaming, and Dreaming</b>	<b>92</b>
--	-----------

KIERAN C. R. FOX, MANESH GIRN, CAMERON C. PARRO, AND KALINA CHRISTOFF

<b>7 A Heated Debate: Time to Address the Underpinnings of the Association between Creativity and Psychopathology?</b>	<b>114</b>
--	------------

SIMON KYAGA

<b>8 Creativity and Psychopathology: A Relationship of Shared Neurocognitive Vulnerabilities</b>	<b>136</b>
--	------------

SHELLEY H. CARSON

**Part III Attention and Imagination**

- 9 Attention and Creativity 161  
DARYA L. ZABELINA
- 10 Internally Directed Attention in Creative Cognition 180  
MATHIAS BENEDEK
- 11 The Forest versus the Trees: Creativity, Cognition and Imagination 195  
ANNA ABRAHAM
- 12 A Common Mode of Processing Governing Divergent Thinking  
and Future Imagination 211  
REECE P. ROBERTS AND DONNA ROSE ADDIS

**Part IV Memory and Language**

- 13 Going the Extra Creative Mile: The Role of Semantic Distance in  
Creativity – Theory, Research, and Measurement 233  
YOED N. KENETT
- 14 Episodic Memory and Cognitive Control: Contributions to Creative  
Idea Production 249  
ROGER E. BEATY AND DANIEL L. SCHACTER
- 15 Free Association, Divergent Thinking, and Creativity: Cognitive  
and Neural Perspectives 261  
TALI R. MARRON AND MIRIAM FAUST
- 16 Figurative Language Comprehension and Laterality in Autism  
Spectrum Disorder 281  
RONIT SABAN-BEZAEL AND NIRA MASHAL

**Part V Cognitive Control and Executive Functions**

- 17 The Costs and Benefits of Cognitive Control for Creativity 299  
EVANGELIA G. CHRYSIKOU
- 18 Creativity and Cognitive Control in the Cognitive and  
Affective Domains 318  
ANDREAS FINK, CORINNA PERCHTOLD, AND CHRISTIAN ROMINGER
- 19 Associative and Controlled Cognition in Divergent  
Thinking: Theoretical, Experimental, Neuroimaging Evidence,  
and New Directions 333  
EMMANUELLE VOLLE

**Part VI Reasoning and Intelligence**

- 20 Creativity in the Distance: The Neurocognition of Semantically  
Distant Relational Thinking and Reasoning 363  
ADAM GREEN

---

21	Network Dynamics Theory of Human Intelligence	382
	AKI NIKOLAIDIS AND ARON K. BARBEY	
22	Training to be Creative: The Interplay between Cognition, Skill Learning, and Motivation	405
	INDRE V. VISKONTAS	
23	Intelligence and Creativity from the Neuroscience Perspective	421
	EMANUEL JAUK	
<b>Part VII Individual Differences</b>		
24	The Genetics of Creativity: The Underdog of Behavior Genetics?	437
	DAVIDE PIFFER	
25	Structural Studies of Creativity Measured by Divergent Thinking	451
	HIKARU TAKEUCHI AND RYUTA KAWASHIMA	
26	Openness to Experience: Insights from Personality Neuroscience	464
	OSHIN VARTANIAN	
27	Creativity and the Aging Brain	476
	KENNETH M. HEILMAN AND IRA S. FISCHLER	
<b>Part VIII Artistic and Aesthetic Processes</b>		
28	The Neuroscience of Musical Creativity	495
	DAVID BASHWINER	
29	Artistic and Aesthetic Production: Progress and Limitations	517
	MALINDA J. MCPHERSON AND CHARLES J. LIMB	
30	Polymathy: The Resurrection of Renaissance Man and the Renaissance Brain	528
	CLAUDIA GARCIA-VEGA AND VINCENT WALSH	
	<i>Index</i>	540

*The color plates are between pages 322 and 323*