Neuroscience and Social Science
Preface

This book results from discontent: although, in the last two decades, social cognitive affective neuroscience has been recognized as a strong field with potentially huge societal impact, the translation of findings from the laboratory to society remains markedly limited, if not altogether null. To face this scenario, here we aimed to provide a novel reconsideration of the borderlands of neuroscience and the social sciences, offering diverse, multidimensional perspectives about their current and potential interactions.

The volume comprises four sections. In Part I, we bring together neuroscientific perspectives on hot topics within social cognition, such as emotions, morality, and different forms of interpersonal dynamics. The works in Part II examine specific translational outlets of social neuroscience, including clinical settings and mass communication. Societally relevant implications of the field are further expounded in Part III, which focuses on poverty, social equality, and public health. To conclude, Part IV contains provocative reflections on conceptual, methodological, and translational issues which pervade the dialogue between neuroscience and the social sciences.

Such a vast array of topics come from the hand of renowned international experts operating in neuroscience, psychology, psychiatry, neurology, journalism, philosophy, biology, sociology, and therapy, among other fields. Together, their contributions provide a multidisciplinary and multi-domain view of the most recent interactions between social cognitive affective neuroscience and several social sciences. Each part offers a comprehensive vision about both the state-of-the-art and future trends in relevant areas, as well as an intrinsic discussion regarding the intertwine of neuroscience with other social sciences.

We would like to note that this is not a handbook, given that we are not aiming for exhaustiveness; rather, we are targeting selected prototypical interactions of neuroscience and social sciences in terms of complementarity, tensions, and fertile bidirectional critiques, as well as empirical and theoretical reconsiderations. By presenting contributions from diverse scientific and disciplinary domains, this book offers a comprehensive description of the present and future of neuroscience in different fields of society. Thus, we hope this endeavor will come to inform a necessary
milestone for a more organic and active dialogue between multiple disciplines that are typically separated by individual approaches. After a long period of passionate work from the authors and ourselves, we believe that the result not only proves appealing to a wide audience but that it also overcomes classical discussions between neuroscience and varied humanistic fields, presenting the current and future developments which are critical for our society.

This book would not have been possible without the active participation of several actors. The authors have generously provided their outstanding knowledge to discuss the relevance of the interactions between neuroscience and social sciences. Expert reviewers have selflessly contributed with rigorous reviews, ensuring that only submissions of the highest quality made it to print. Our gratitude goes out to all these remarkable scholars who anonymously helped during the revision process. Also, we want to acknowledge the support from our network of institutions, which provided the time and support to develop this project: the Institute of Cognitive and Translational Neuroscience (INCYT); the INECO Foundation; Favaloro University; the National Scientific and Technical Research Council (CONICET); the National University of Cuyo (UNCuyo); Universidad Autónoma del Caribe; the Center for Social and Cognitive Neuroscience (CSCN), Universidad Adolfo Ibáñez; and the Centre of Excellence in Cognition and Its Disorders, Australian Research Council (ACR). We would also like to thank the different sources of funding directly or indirectly related to this work, namely, CONICET, CONICYT/FONDECYT (Regular 1170010), FONCyT-PICT (2012-0412 and 2012-1309), the Initiative for the Promotion of Regional Public Goods of the Inter-American Development Bank (IDB), and the INECO Foundation. We also extend our gratitude to the editorial board of Springer, especially to Bruno Fiuza: The idea of this book was conceived in a cafe in Puerto Madero, Buenos Aires, close to the Río de la Plata, one afternoon in which Bruno gently proposed Springer as a platform for our current hopes and concerns regarding the limits and possibilities of neuroscience. Finally, we express our deep and warmest regards to our life companions, Margherita, Pamela, and María, for their patience and understanding during the elaboration of this book. Their support is perhaps the best illustration of how crucial social factors are in the daily workings of neuroscience.

Buenos Aires, Argentina

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Abbreviations

ABRs  Auditory brainstem responses
ACC  Anterior cingulate cortex
ACG  Active control group
AD  Alzheimer’s disease
AI  Anterior insula
AIC  Anterior insula cortex
aPFC  Anterior prefrontal cortex
AR  Authority ranking
ASD  Autism spectrum disorder
aSTG  Anterior superior temporal gyrus
ATP  Anterior temporal pole
AV  Attachment avoidance
AWM(s)  Attachment working model(s)
AX  Attachment anxiety
BA  Brodmann area
BDI  Beck depression inventory
BDNF  Brain-derived neurotrophic factor
BEAST  Bodily expressive action stimulus test
BEES  Balanced emotional empathy scale
BES  Basic empathy scale
BLRI  Barret–Lennard relationship inventory
BMI  Body Mass Index
BOLD  Blood-oxygen-level dependent
BPD  Borderline personality disorder
BT  Behavior therapy
bvFTD  Behavioral-variant frontotemporal dementia
CBT  Cognitive behavioral therapy
CCRT  Core conflictual relationship theme
CE  Corrective experience
CeA  Central nucleus of the amygdala
CHD  Coronary heart disease
Abbreviations

CMS Cortical midline structures
CS Communal sharing
CTRA Conserved transcriptional response to adversity
dACC Dorsal anterior cingulate cortex
DG Dictator game
dLPFC Dorsolateral prefrontal cortex
DMN Default mode network
dmPFC Dorsomedial prefrontal cortex
DNA Deoxyribonucleic acid
DSM Diagnostic and statistical manual
EEG Electroencephalography
EM Equality matching
EP Explanatory pluralism
EPT Empathy-for-pain task
EQ Empathy quotient
ERN Error-related negativity
ERP Event-related potential
ERP Event-related potentials
ESUP Expressive suppression
EVC Expected value of control theory
FBT False belief task
FEAST Facial expressive action stimulus test
FFA Fusiform face area
FG Fusiform gyrus
fMRI Functional magnetic resonance imaging
fNIRS Functional near-infrared spectroscopy
FOEs Fortune-of-other emotions
FTLD Frontotemporal lobar degeneration
FVT Foraging value theory
GAD General anxiety disorder
GAF Global assessment of functioning
GENIAL model Genomics-environment-vagus nerve-social interaction-allostatic regulation-longevity
HD Huntington’s disease
HME Higher maternal education
HNPS Hanse neuropsychoanalysis study
HPA Hypothalamic-pituitary-adrenal
HR Hazard ratio
HRV Heart rate variability
HS Head start
iCBT Internet-based cognitive behavioral therapy
ICD International classification of disease
IFG Inferior frontal gyrus
IOS Inclusion of the other in the self
Abbreviations

IPP Interpersonal psychotherapy
IQ Intelligence quotient
IRI Interpersonal reactivity index
LDL Low-density lipoprotein
LG Licking and grooming
LME Lower maternal education
LPP Late positive potential
mACC Middle anterior cingulate cortex
MASC Movie for the assessment of social cognition
MBCT Mindfulness-based cognitive therapy
MDD Major depressive disorder
MET Multifaceted empathy test
MFN Medial frontal negativity
Mini-SEA Mini-social cognition and emotional assessment
MNS Mirror neuron system
MOR \( \mu \)-opioid receptor
MP Market pricing
mPFC Medial prefrontal cortex
MRI Magnetic resonance imaging
MRS Modified ranking scale
MVPA Multi-voxel pattern analyses
NAT Natural viewing
NCS Neural correlates
NES Neural enabling condition of self
NIMH National institute of mental health
NPS Neural predisposition of self
OCD Obsessive compulsive disorder
OFC Orbitofrontal cortex
OR Odds ratio
OXT Oxytocin
OXTR Oxytocin receptor
PACC Perigenual anterior cingulate cortex
PCC Posterior cingulate cortex
PCC Precuneus cingulate
PET Positron emission tomography
POR Practice-oriented research
PPDT Psychodynamic therapy
PreHD Presymptomatic HD carriers
pSTS Posterior STS
PT Perspective taking
PTSD Post-traumatic stress disorder
RCT Randomized clinical trial
RDoC Research domain criteria
REAP (Cognitive) reappraisal
<table>
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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>RMET</td>
<td>Reading the mind in the eyes test</td>
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<tr>
<td>RO</td>
<td>Response of the others</td>
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<tr>
<td>RS</td>
<td>Response of the self</td>
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<tr>
<td>RT</td>
<td>reaction time(s)</td>
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<tr>
<td>SACC</td>
<td>Supragenual anterior cingulate cortex</td>
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<tr>
<td>SAD</td>
<td>Social anxiety disorder</td>
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<tr>
<td>SApNS</td>
<td>Social approach neural system</td>
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<tr>
<td>SAvNS</td>
<td>Social aversion neural system</td>
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<tr>
<td>SCE</td>
<td>Self-conscious emotions</td>
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<td>SCL-90</td>
<td>Symptom check list 90</td>
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<tr>
<td>SCNM</td>
<td>social context network model</td>
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<td>SD</td>
<td>Semantic dementia</td>
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<td>SES</td>
<td>Socioeconomic status</td>
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<tr>
<td>SN</td>
<td>Social neuroscience</td>
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<tr>
<td>SN</td>
<td>Substantia nigra</td>
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<td>SPECT</td>
<td>Single-photon-emission computed tomography</td>
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<td>SRE</td>
<td>Self-reference effect</td>
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<td>ST</td>
<td>Simulation theory</td>
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<td>STS</td>
<td>Superior temporal sulcus</td>
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<td>SVO</td>
<td>Social value orientation</td>
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<td>TASIT</td>
<td>The awareness of social inference test</td>
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<td>TC</td>
<td>Temporal cortex</td>
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<td>TG</td>
<td>Trust game</td>
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<td>TMS</td>
<td>Transcranial magnetic stimulation</td>
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<td>ToM</td>
<td>Theory of mind</td>
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<td>TP</td>
<td>Temporal pole</td>
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<td>TPr</td>
<td>Training program</td>
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<td>TPJ</td>
<td>Temporoparietal junction</td>
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<tr>
<td>TT</td>
<td>Theory theory</td>
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<tr>
<td>UR</td>
<td>Utilitarian response(s)</td>
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<tr>
<td>vLPFC</td>
<td>Ventrolateral prefrontal cortex</td>
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<tr>
<td>vmOFC</td>
<td>Ventromedial orbitofrontal cortex</td>
</tr>
<tr>
<td>vmPFC</td>
<td>Ventromedial prefrontal cortex</td>
</tr>
<tr>
<td>VNS</td>
<td>Vagal nerve stimulation</td>
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<tr>
<td>VPT</td>
<td>Visual perspective taking</td>
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<tr>
<td>VS</td>
<td>Ventral striatum</td>
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<tr>
<td>VTA</td>
<td>Ventral tegmental area</td>
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<tr>
<td>W</td>
<td>Wish</td>
</tr>
<tr>
<td>WAIS</td>
<td>Wechsler adult intelligence scale</td>
</tr>
<tr>
<td>WEIRD</td>
<td>Western, educated, industrialized, rich, and democratic</td>
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