

Index

- Adaptability, 29, 30, 33
- Affect. *See also* Emotions and feelings; Mood
defined, 246
vs. emotion, 246
- Affective-cognitive distinction, 178–179
- Affective evaluation, 263
brain bases of, 246–249
cognitive regulation of, 249–250
attentional control, 250–254
cognitive change, 255–259
- Affect regulation, 245–246, 263. *See also*
Affective evaluation, cognitive regulation
of
defined, 247
future directions, 259–261
outstanding questions, 261–263
historical perspective on, 245
- Akinetic mutism, 23–24
- Allport, Gordon W., 189, 203
- Amygdala, 15, 120, 273, 275–278
affective evaluation and, 247–249, 251–253,
256–262
fear conditioning and, 231–238, 251–253
lesions of, 15, 17–20, 27, 248, 275, 277
- Animal models, 240. *See also under* Social
cognition
of fear conditioning, 229–231
and dynamics of race bias and learning,
238–240
and neural systems of race bias, 231–235
and social learning, 235–238
- Anosognosia, 20–21, 28
- Anterior cingulate cortex (ACC), 181–182.
See also Orbitofrontal-anterior cingulate
cortex
basic function of, 176–177
as neural alarm system, 177–178
dorsal vs. rostral, 178–181
and physical pain in humans, 170–171
and social pain in animals, 171–172
and social pain in humans, 172–176
- Anxiety, 180
- Arousal, 8–9
- Assertiveness, 29, 30, 33, 34
- Attachment. *See* Social attachment system
- Attention. *See also* Control, attentional;
Selective attention
joint, 108–109
- Attentional distraction during pain, 253–254
- Attribution
of false beliefs, 92–93
of mental states, 90–92, 276 (*see also*
Thinking about others)
- Aurelius, Marcus, 245
- Autistic syndrome, 75
- Bar-On emotional quotient inventory. *See*
Emotional quotient inventory
- Belief, 110–112
inferring, 118–120
- Belief-desire psychology, 110–112
- Belief understanding, implicit, 111–112

- “Boxological” models of behavior, 136
- Brain imaging, 140–141, 144, 288–291. *See also specific topics*
- decompositional/subtractive approach to, 141
- integration across levels of analysis, 290–291
- Brain localization. *See* Localization
- Brainstem, lesions within, 25–26
- Brainstem nuclei, 21–22
- Brodmann, Korbinian, 289
- Category error, 3
- Cell assemblies, 3
- Cerebellum, 26
- Cingulate cortex, 248, 260, 261. *See also*
Anterior cingulate cortex; Orbitofrontal-
anterior cingulate cortex
- Cognitive control processes. *See* Control
processes
- Cognitive processing
components of, 136–139
types of, 71
- Computer metaphor, xi
- Conditioning. *See under* Animal models
- Conflict processing, 179–181
- Contingent negative variation (CNV) task,
215–217
- Control, attentional, 250–254
- Control processes, 250
- Convergence-divergence zone, 24
- Cortical modularity. *See* Modularity
- “Cost analysis” of brain function, 293
- Crying. *See* Laughing and crying
- Darwin, Charles, 269
- Desire, 110
- Determinism
multiple, 7
nonadditive, 8
reciprocal, 8
- Developmental perspective, 292
- Distributed brain mechanisms for social
cognition, 6–7
- Distributed circuits, 3–6
- Dorsal region of anterior cingulate cortex
(dACC). *See* Anterior cingulate cortex
- Dorsolateral frontal cortex (DFC), 116
- Dorsomedial prefrontal cortex, 72, 73, 76
- “Double dissociation,” 137
- Embedding-recursion, 113–114
- Emotion. *See also* Affective evaluation;
Emotions and feelings; Mood
vs. affect, 246
defined, 246
- Emotional intelligence
vs. cognitive intelligence, 26–36
components, 13
defined, 13
- Emotional intelligence competencies, 28, 29
- Emotional quotient inventory (EQ-i), 27–29,
34, 35
subscales, 28–30, 33, 34
- Emotion execution, 16. *See also* Emotions and
feelings
- Emotion recognition, 209, 219–221. *See also*
Facial expressions
origins, 209–210
social experience and, 210–214
- Emotions and feelings, 180, 246. *See also*
Affective evaluation; Mood
amygdala and, 15, 17–20 (*see also* Amygdala)
insular-somatosensory cortex and, 20–22
neuroanatomy, 14–16
primary and secondary inducers of, 18, 21,
22, 24
- Empathy, 161. *See also* Thinking about others
- Emulation, 279–280
- Enactive cognition, 279
- Error-related negativity (ERN), 199
- Event-related potentials (ERPs), 119, 189–190,
221–222n. *See also* Social category
information; Stereotyping and behavior
- Evolution, xi–xii, 169–170
- Evolutionary context of social cognition, 103,
104, 269–270

- Executive function (EF), 30, 31, 33, 122
social, 154–155
theory of mind and, 115–118
- Extinction learning, 234
- Facial expressions. *See also* Affective evaluation, cognitive regulation of
in-group vs. out-group, 211–212, 219–221
ERP differentiation of, 212–219
- False beliefs, attribution of, 92–93
- False belief tasks, 83, 86–87, 93–98, 111–113, 116, 117, 119, 120
types of, 111
- Faux Pas Recognition Task, 117
- Fear. *See* Anxiety; Emotion recognition; Facial expressions
- Fear conditioning. *See under* Amygdala
- Flexibility, 29, 30, 33
- Frontotemporal dementia (FTD), 75
- Functional decomposition, 136
- Gage, Phineas, 155
- Gender. *See* Race, gender and
- Goals, inferring, 107–108
- Grammaticality judgment, 138
- Hemodynamic response in fMRI, 140
- Herpes simplex virus type I (HSV1), 1–2
- Human action control stories. *See* False belief tasks
- Hyperscanning, 173–176
- Identifying people and their behavior, 90–92
- Implicit association test (IAT), 231–232
- Implicit belief understanding, 111–112
- Impression formation vs. sequencing, 70–73
- Impulse control, 29, 30, 33
- Individual differences, 291–292
- Information processing. *See* Cognitive processing
- In-group vs. out-group facial expressions. *See under* Facial expressions
- Insula, 51, 248
- Insular-somatosensory cortex, lesions of, 20–22
- Intelligence. *See also* Emotional intelligence; Social intelligence
cognitive (IQ), 30, 31, 33–34
- Intentionality, 179, 182n1
- Intentional stance, 68
- Intentions, inferring, 107–108
- Interpersonal relations, 29, 30, 33
- Introspection. *See* Thinking about others, and oneself
- James, William, 287, 293
- Journals, social neuroscience, xii
- Judgment in decision-making, 35–36
- Knowledge, 110–112
about people (*see* Thinking about others)
- Language, 131, 146–147
brain and, 134
competence-performance distinction, 132
evolution of, 135
is treated as cold and not cognitive, 131–136
and language use, study of, 132
and mechanisms of social interaction, 144–146
- Language functions, separating putative and other, 132
- Language-motor interaction in cortical activity, 139–141
- Language processing, 131–136
components of, 136–139
levels of, 138
- Language research, 131–132, 134
assumptions in, 132
- Language use, 132
understanding mechanisms of, 142–144
- Laughing and crying, pathologic, 25–26
- Left temporoparietal junction (LTPJ), 89, 93, 97–98
- Lexical decision, 138

- Localization, functional, 2–5
 brain imaging and, 5–6
 history, 2–3
- Location-change tasks, 111–112
- Mechanical inference (MI) stories, 86–87
- Medial prefrontal cortex (MPFC), 51, 68, 69, 73, 74, 76, 77, 78n2. *See also* Prefrontal cortex
 false belief and photograph stories and, 88
 posterior cingulate, left TPJ, and, 93–94
 RTPJ and, 94–97
- Memory, 30, 31, 33
 explicit vs. implicit, 64–65
 in social-cognitive vs. nonsocial tasks, 70–73
 working, and social category information, 194
- Mentalism, 110–112, 114, 122
- Mental states. *See also* Attribution, of mental states; Self-awareness
 acting based on others', 110–112
 inferring another person's, 68–69
- Mental time travel hypothesis, 270, 278
- Metarepresentation, 86–89
 theory of mind and, 112–122
- Metarepresentation-recursion and theory of mind, 115, 120–122
- Minding, 160
- Modularity, 133–134
 social cognition and, 270–273
- Modular processes, 271–272
- Mood, 29, 30, 33. *See also* Affect
- Multilevel analysis, 7–8
- Multiple determinism, 7
- Mutism, akinetic, 23–24
- Neural circuits and networks, 135, 136
- Object transfer problem, 83
- Obsessive-compulsive disorder (OCD), 178
- Orbitofrontal-anterior cingulate cortex, 15.
See also Emotional intelligence, vs. cognitive intelligence
 lesions of, 22–25
- Orbitofrontal cortex (OFC), 74
 affective evaluation and, 248–249
 person-perception processes and, 160–161
 self-perception processes and, 158–159
 social executive functioning and, 154–155
 theory of mind and, 117–120
- Orbitofrontal damage
 social disinhibition associated with, 155, 156
 and social regulation, 155–157
- Pain. *See* Anterior cingulate cortex; Social pain
- Pain matrix, 170
- Pavlov, Ivan, 287–288
- Perception, 30, 31, 33–34
- Periacqueductal gray (PAG), 254
- Phase sequences, 3
- Phoneme discrimination, 138–139
- Posterior cingulate (PC), 89, 93
 LTPJ and, 97–98
- Posterior cingulate cortex (PCC), 48
- Prefrontal cortex (PFC), 248, 260, 261, 273–275. *See also* Dorsomedial prefrontal cortex; Medial prefrontal cortex; Orbitofrontal cortex
 and retention of extinction learning, 234–235
 semantic judgments and, 66, 67
- Prejudice, 189, 190, 215–221. *See also* Animal models, of fear conditioning; Race; Stereotyping and behavior
- Pretend play, 109
- Primate family tree, 104
- Primates, social cognition in, 103–112
- Problem solving, 29, 30, 33
- Protodeclarative pointing, 108
- Proximity, corollary of, 7
- Pseudobulbar palsy, 25–26
- Race. *See also* Animal models, of fear conditioning; Facial expressions, in-group vs. out-group

- brain and, 211–212
- brain processes during emotion recognition and, 212–214
- gender and, 191–196 (*see also* Stereotyping and behavior)
- boundary conditions on attention to, 196–198
- Reappraisal, 255–257
- Reciprocal determinism, 8
- Recursion, 122
- metarepresentation and, 113–115, 120–122
- Reflexivity. *See* Self-awareness
- Representing people and their behavior, 90–92
- “Resting” brain, 292–293
- Rhyme judgment, 138
- Right temporoparietal junction (RTPJ), 84–86, 98
- effect of delaying onset of mental state information in, 90–92
- MPFC and, 94–97
- as neural substrate theory of mind, 92–93
- role of, 86
- Right temporoparietal junction (RTPJ)
- response, accounts of, 86, 92–93
- agents and their behavior, 90–92
- causal inference, 86–87
- meta-representation, 86–89
- Scanning, 173–176
- Seeing-leads-to-knowing tests, 111–112
- Selective attention to socioemotional stimuli, 251–253
- Selective evaluation, 257–259
- Self-awareness, 29, 30, 33, 34, 41–43, 54–55
- aspects of, 43
- functional imaging and, 43, 48–54
- functional imaging signals, 44–45
- physiological baseline, 46–48, 55n1
- Self-disclosure and liking, 160
- Self-perception, accuracy of, 158–159
- Self-perception processes
- orbitofrontal cortex and, 158–159
- social regulation and, 153, 158, 162
- Self-referent effect, 159
- Self-regard, 29, 30, 33, 34
- Self-regulation, role of self-perception and person perception in, 157–161
- Semantic knowledge about people, 66.
- See also* Thinking about others
- Sherrington, Charles, 287
- “Shooting” vs. “not shooting” decisions.
- See under* Stereotyping and behavior
- Simulation, 278–280
- Situated cognition, 279
- Social attachment system, 169, 181
- Social behavior and social abilities, 63–64
- Social category information, perception of, 189–196, 203–204. *See also* Stereotyping and behavior
- boundary conditions on attention to race and gender, 196–198
- Social cognition. *See also* Thinking about others; *specific topics*
- in monkeys, apes, and humans, 103–112
- neuroscience of, 273–280
- what is special about, 280–281
- Social exclusion, 173–175
- Social functioning, 29, 32
- Social intelligence, 13
- vs. cognitive intelligence, 26–36
- Social interaction, mechanisms of, 144–146
- Social neuroscience, vii–x, 103–104, 287–288, 293–294. *See also specific topics*
- Social pain, 167. *See also under* Anterior cingulate cortex
- linguistic evidence linking physical pain and, 167–169
- evolutionary story for the link, 169–170
- Social perception. *See also specific topics*
- ERPs used to study, 189–190
- simple model of, 190–191
- Social regulation, 153–154, 162. *See also* Self-regulation
- person-perception processes and, 160
- self-perception processes and, 158, 162

- Social stress, 2
- Somatosensory cortex. *See* Insular-somatosensory cortex
- Special (brain) mechanisms debate, 1–2
- Speech perception, 142–143, 145–146. *See also* Language
- Stereotyping and behavior, 198–199, 203–204. *See also* Animal models, of fear conditioning; Facial expressions; Race; Social category information
- conflict monitoring and erroneous decisions to shoot, 198–201
- conflict monitoring during successful behavior regulation, 201–203
- Stimulation-induced behaviors, 3–5
- Stress, and immune function, 1–2
- Stress management, 29, 30, 33
- Superior temporal sulcus (STS), 107–108
- Symbolic and nonsymbolic processes and representations, 179–181
- Syntactic processing, 132–133
- Temporoparietal junction (TPJ), 120, 121. *See also* Left temporoparietal junction; Right temporoparietal junction
- Theory of mind (ToM), 85, 98, 270. *See also* False belief tasks; Metarepresentation; Thinking about others
- components/building blocks of, 106–107
- inferring goals and intentions, 107–108
- joint attention, 108–109
- pretend play, 109
- criteria for neural substrate, 92–93
- definitions of, 106
- development of, 107
- implicit mentalistic understanding and, 110–112
- neuroscience research on, 114–122
- maturation of, 122–123
- questions regarding, 115–122
- Theory of mind (ToM) stories/tasks, 86–87
- reasons patients fail, 116–118
- Thinking about others, 63–65, 77–78
- brain regions involved in, 83–84, 161 (*see also specific regions*)
- extracting and encoding personality information, 69–73
- guiding social behavior, 73–75
- inferring another person's current mental states, 68–69
- knowledge about specific characteristics of people, 65–68
- and oneself, 75–77
- Time. *See* Mental time travel hypothesis
- Tomasello, Michael, 270
- Tone discrimination, 138–139
- Unexpected contents tasks, 111–112
- Ventral striatum, 248
- Ventromedial prefrontal (VM) region, 22–25, 248
- Vertex positive potential (VPP), 213, 214
- Visual system, 175
- Williams syndrome, 75