

Index

- Abbott, Barbara, 181, 183
- Absent-mindedness, 229
- Abstractive task learning, 280
- Accuracy, as complexity benefit, 264
- Acker, Kathy, 330
- Action(s), 1, 283n.3
- antecedents to, 124
 - causation of, 133
 - choice in, 5
 - and control, 81, 143 (*see also* Agent-control)
 - and intention, 21, 48–49, 54, 129–31
 - ownership of (will as), 170
 - physically coupled, 18 (*see also* Coaction)
 - psychologically coordinated, 18 (*see also* Coaction)
 - and reasons, 125
 - science of, 125, 126, 138
 - social circumstances of, 19
- Action control
- fluidity of, 282
 - high-order, 257
- Action-outcome control, 283n.1
- in evolution of high-order control, 262
- Action-perception loop, 343
- Act-of-will picture, 77, 77–78, 84, 86
- clear distinction in, 87
 - experiments challenging, 78–80
 - and neuroscience, 81
- Adaptive agent, 311–12, 313
- Adaptive coding model, 280
- Addictions
- self-torturer model of, 183
 - as willpower failure, 171
- Affect-driven preoccupation, 242–43
- Agency and agents, 1, 39, 57–58, 123, 124–25, 146. *See also* Authorship; at
- Causal
 - adaptive, 311–12, 313
 - and applied psychology researchers, 289
- Aristotle on, 144
- in atomic model, 156
- and authorship judgments, 31
- and causal explanation, 125, 133–34, 140
- and conceptual imperialism, 40
- and control, 132, 146–47, 151
- and “control” or “responsibility,” 57
- and control-theoretic models, 305
- and control theory, 290
- as core biological ensemble, 114
- and counterfactuals, 143
- as distributed, 12, 156–57, 158
- vs. autonomous, 118
- and distributed cognitive structures, 290
- and ecological control, 104
- and economics, 13
- and environment as passive, 227
- goal, 294, 311–12, 313

- Agency and agents (cont.)
 and integration in complex systems, 205
 and mechanistic explanation, 289
 modeling of, 149–50
 and A/not-B task, 151–52
 and Bratman's position, 154–55
 and central systems, 150–51
 and expert performance, 152–53
 and hijacking, 153
 and ironic processes, 153–54
 and neurotic behavior or phobic fears, 154
 and social sciences, 155–57
 and weakness of will, 153
 and moral culture, 4–5
 and motivation, 1
 and motivationism, 126
 in neoclassical economics, 198–99, 203
 and neoclassical formalism, 209
 and schizophrenia, 15, 343
 and science, 14, 124, 139
 and self-regulation, 290, 291
 and skepticism about willful causation, 11
 as social phenomenon, 11
 unity of, 243
 Wegner's view of, 59
 and will, 3
- Agent-control, 77
 in act-of-will picture, 77–78, 81, 84, 86
 clear distinction in, 87
 experiments challenging, 78–80
 as agential capacity, 81–82, 84–88, 89
 conversability as, 82–84, 85–86, 87, 89
 and neuroscience, 78, 79, 81, 85, 88–89
- Agentic functions, 148
 Agentic shift, 23
 AI (artificial intelligence), 6, 146, 205, 290
 Ainslie, George, 8–9, 12–13, 95, 96
- Algorithms, 135
 and centralization, 136
 Allen, Heidi, quoted, 323
 Alphabet maze experiment, 24–27, 30–31
 Altruistic punishment, 66
 Alzheimer's disease, and frame problem, 313
 Amygdala, 334
 Andreasen, Nancy, 334, 335
 "Animal spirits" (Keynes), 222n.15
 A/not-B task, 151–52
 Anscombe, G. E. M., 124
 Anterior cingulate cortex, 279
 Anti-individualism, 201, 213
 and self, 205
 Apparent mental causation, theory of, 21, 47, 48–50, 52, 53, 56, 57
 Applied psychology. *See* Psychology, applied
- Aristotle
 on incontinence, 176
 on studying fiction, 204
 on will, 143–44
- Articulation pressure, 263
 Artificial intelligence (AI), 6, 146, 205, 290
 Artificial life (AL) techniques, 201, 202
 "Artificial walkers" (PDWs), 102–103, 117, 311
 Asimo (robot), 102, 103
 Asset valuation, 206–207
 Assumptions, underlying hypotheses, 185
 Atomic model, 156
 Atomists, 169
Atonement (McEwan), 78
 Attentional control, and fluid intelligence, 279–80
 Attentional system, supervisory, 334
 At-will behaviors or performances, 123–24, 282
 and motor control, 276, 282

- Authority, and Milgram obedience experiment, 23
- Authorship, 19. *See also* Agency and agents; Ownership; Responsibility and body information, 20 and causal relations, 134 and coercion, 19, 23–25, 32 (*see also* Coaction) and conscious will, 28 as emotion of, 51, 53–54 and control, 134, 138 erroneous assumption of, 55–56 and mind information, 21–23 of others' actions, 21 in schizophrenia, 20, 30 and person as self-perceiver, 29–30 and social accounting, 30–32 and social information, 23–28, 29–30 will as somatic marker of, 51–52
- Autism, and facilitated communication, 22
- Autism-like traits, and authorship of coaction, 27
- Automata, 94. *See also* Robots
- Automation and expert performance, 152 and modules, 146
- Autonomic system, 272–74
- Avicenna, 119n.1 quoted, 101, 113
- Avowals, 137 and Bratman, 155 and motivations, 155
- Awareness, 99n.1. *See also* Consciousness brain's operation in absence of, 7 subjective, 284n.12
- Axelrod, Robert, 66
- Axiom of causality, 139–40
- Axiom of control, 140
- Ayer, A. J., 184
- Baars, Bernard, 145
- Bain, Alexander, 178–79, 184
- Bandura, Albert, 295, 296, 299, 300, 302, 304, 306, 315, 317
- Bargaining, intertemporal, 173–74, 177, 185, 189, 192 lecture audience example of, 177, 183
- Beckett, Samuel, 330
- Behavior and consciousness, 144 and control, 134 expert, 126 (*see also* Expert performance) fluid, 309 habituated, 126 molarization of, 132, 135 ownership of, 124–25, 126 reflex, 276–77
- Behavioral flexibility, and cognition, 259
- Behavior control, adaptive strategies for, 270
- Behaviorism, 179
- Behavioristic neoclassical consumer theory, 205
- Beliefs, 211, 247n.3 in control-theoretic models of self-regulation, 302–305
- Bergson, Henri-Louis, 42
- Berns, Greg, 206, 207
- Biological individuals, 208–209 and abortion, 221n.10 and cooperative games, 219 enculturation of, 213, 214–15 and evolutionary game theory, 210 vs. persons, 8, 208, 213, 221n.10
- Biologically based comparative framework for cognitive architecture, 257–59
- Biotechnologically hybrid self, 108–109
- Black boxes, mental components seen as, 316 will as, 4, 5, 13, 185
- Black-Scholes model, 206

- Blame and blameworthiness, attribution of, 72
- Bleuler, Eugen, 330
- Blumenbach, Johann Friedrich, 42
- Bodily functions
 as nonconscious, 93
 robots as responsible for, 94–95
 and self as communication monitor, 95–98
- Body information, and authorship, 19, 20
- Boogerd, Fred C., 43–44
- Bounded rationality, 220n.2
- Brain, 101
 amygdala, 334
 anterior cingulate cortex, 279
 and awareness, 7
 and conscious choices, 5
 control hierarchy of, 14
 and distributed control, 6–8, 14
 easing of cognitive load on, 313
 and ecological control, 104 (*see also* Ecological control)
 functional localization in, 324
 and game-playing, 212
 hippocampus, 325, 334
 and massive modularity, 145
 and neuroeconomics, 206–208
 vs. nonbiological environment, 111
 prefrontal cortex, 257, 277, 280, 281, 282, 334
 as recurrent network, 331–35
 schizophrenic, 325, 334, 342
 vs. selves, 208
 and social information in experience of authorship, 28
 sophistication in sciences of, 4
 and split-brain patients, 50, 54
 and subpersonal level, 89
 and vertebrate motor system, 275
 and willpower, 171
- Bratman, Michael, 129, 154–55
- Brentano, Franz, 328
- Broca, Pierre-Paul, 324
- Bundling choices, 191
- Bundling rewards, 174–76
- Buridan's ass, 127, 128
- Bush, George W., 30
- Calvinist theory of sin and salvation, 191
- Cartesian theater, 54–55, 113
- Causal agent, ideal, 49, 53, 57–58. *See also* Agency and agents
- Causal attribution, social circumstances in, 23–24
- Causal explanation
 and agency, 125, 133–34, 140
 diagnostic thinking as, 190
- Causality or causation
 axiom of, 139–40
 vs. control, 138–43, 146
 free will as contradiction to, 188–89
 between intentions and actions, 48–49
 mental, 21
 vs. reasons, 7
 and will, 192
 illusion of, 80 (*see also* Illusion of will)
- Causa sui* (cause of oneself), 61
- Causation. *See* Causality or causation
- Central executive, 150. *See also* Executive function
- Centralization, in early neural evolution, 271–72
- Centralized process, 136, 136–37
- Central pattern generator (CPG), 256, 276
- Central systems, 150–51. *See also* Hierarchical organization or architecture; High-order control or regulation
 and cognitive control, 277–80
 and computational problems (Fodor), 315
 and high-level cognitive processes, 308
- Cephalization, 271

- Chaos theory, and freedom of will, 189
- Chess-playing computer programs, 97
- Chevreur pendulum, 147, 153
- Childhood, executive function in, 147
- Chimpanzees, and moral outrage, 66, 67–68, 74n.7
- Chisholm, Roderick, 41, 44, 48
- Choice(s). *See also* Rational choice theory
 and action, 5
 bundling of, 176, 191
 and ownership, 170
 and temptation, 192
 and will, 189
- Christian philosophy, and will, 1
- Clark, Andy, 6, 8, 12, 134, 313
- Cnidarian nervous systems, 271, 272, 274
- Coaction, 17, 19
 and authorship, 19, 32
 and body information, 19, 20
 and conscious will, 28
 forms of, 18–19
 and mind information, 21–23
 and social information, 23–28, 29–30
 and will, 32
 as experiential indicator, 31
- Co-control, 119n.7
- Cognition. *See also* Distributed cognition
 and ecological control, 104 (*see also* Ecological control)
 evolution of, 255
 and high-order control, 257
 high-level, 277
 massive modularity in, 145–46
 origins of, 259–60
 schizophrenic, 324, 343 (*see also* Schizophrenia)
 and temporality, 330, 336, 338, 340
- Cognitive architecture
 biologically based comparative framework for, 257–59
 distributed cognition, 259
 theory of, 258
- Cognitive compartmentalization, 346.
See also Perspective theory
- Cognitive control, and central system, 277–80
- Cognitive dissonance, 50, 53
 resolving of, 146
- Cognitive dysmetria, 334
- Cognitive heuristics and biases
 experiments, 237–39, 249–50n.17
- Cognitive integrationism. *See* Integrationism, cognitive
- Cognitively sophisticated (CS) creatures and irrationality, 71
 and reactive attitudes, 67, 68
- Cognitive neuroscience, 324
 cognitive control research of, 277
- Cognitive psychology, conceptual false positives in, 45
- Cognitive-resource activation, 229, 247–48n.5
- Cognitive revolution, 169, 179
- Cognitive science
 and agency, 14
 overenthusiasm in, 14
 theoretical paradigms within, 257
- Cognitive self-regulation, 295
- Cognitive systems
 for Alzheimer's patients, 314
 and supervisory system, 148
- Cognitivist symbolic computation paradigm, 257
- Coherence, functional, 265
- Collective rationality, 163n.33
- Commitment model or problem, 65, 68
- Common experience, as basis for theory, 178–80
- Common sense, and science, 80–81
- Communication
 in determination of behavior, 116
 facilitated, 22, 53
 in humans vs. animals, 98

- Communication (cont.)
 as recursively agent-generating practices, 112
 self-monitoring of, 96, 96–97
- Compartmentalization, cognitive, 246.
See also Perspect theory
- Compatibilism, and moral responsibility, 71
- Complexity, 262–63
 functional, 263–64
 and hierarchically structured regulation, 269
 integration pressure from, 264–67
- Computational models
 and frame problem, 310–11, 314–15
 and modeling, 306
- Computer programs, chess-playing, 97
- Conceptual conservatism, 40, 47, 58
 of Wegner, 50–57
- Conceptual imperialism, 40–41, 47, 295
- Conceptual progressivism, 41, 57
- Conflict resolution, in control systems, 146
- Conformity, 18–19
- Connectionism, 257, 290
- Consciousness, 93–94. *See also*
 Awareness
 action-monitoring approach to, 284n.12
 and behavior, 144
 cause of action specified in, 53–54
 in critique of control theory, 295
 Dennett on, 113
 and expert performance, 144–45
 global workspace model of, 284n.12
 and goal-setting theory (Locke), 292
 and highest order control processes, 284n.12
 and human species, 94
 and intention-action relationship, 49
 and nonconscious cognitive processes, 106–10, 115–16
 and robots, 94
 and self, 113
 and self-monitoring, 94, 96–98, 284n.12
 and temporality, 336–37, 339
- Conservatism, conceptual, 40, 47, 58
 of Wegner, 50–57
- Consistency, and intention-action connection, 48
- Constitution, self as, 159
- Constraints, structural, 265, 267
 training wheels as example of, 283n.4
- Consumer theory, 205–206
- Context layer, 339
- Contextual control, 278
- Contraction errors, 242
- Control, 55–56, 57, 134–35
 and agency, 132, 146–47, 151 (*see also*
 Agent-control)
 attentional, 279–80
 axiom of, 140
 vs. causality or causation, 138–43, 146
 contextual, 278
 differentiated, 263
 ecological, 101–104, 117, 118
 Ismael on, 120n.10
 and role of conscious mind, 110, 115–16
 soft, 118
 and unfolding of self, 112
 episodic, 278
 and executive function, 148–49
 organization of, 136–37, 141–42
 perceived, 51
 and problem-solving, 135–36
 through self-governance, 117–18
 through self-model, 117
 sensory, 277–78
 structure of, 141–42, 144, 155
 and theory of action, 143
 top-down, 277–79, 284n.14
- Control order, 268

- Control systems
 minimal (Lloyd), 211
 for robotic bodily systems, 96
- Control theoretic models of self-regulation, 293–94, 317
 and beliefs, 302–305
 and discrepancy creation, 297, 299–302
 and goal striving, 296–97, 298, 299
 and human/machine relation, 295–96
 and origins of model components, 305–306
- Control theory, 205, 294–95
 and agency, 290
 and applied psychology, 289, 290, 295
 criticism of and objections to, 295–96, 306–308
 and distributed cognitive structures, 290
 and frame problem, 290, 309–15
 and free will, 314–15
 and goal-setting or cognitive theory, 295, 306–307, 316
 and mechanistic paradigm, 290
 neuroscientific, 207
- Conversability, 71, 82–84, 85–86, 87, 89
- Cooperative games, 162–63n.33, 219
- Coordinated action, 18
- Coordination, and atomic model, 156
- Coordination games, 204–205
- Correspondence claim, 55–56
- Counterfactual account of causation, 142–43
- Crick, Francis, 316
- Cultural dynamics, vs. social dynamics, 210
- Cultural evolution, 209–10
 theories of, 156
- Cultural milieu, misinformation in, 344
- Cultural technology, in distributed control, 7
- Culture
 and decoupled representations, 211
 and enculturation, 213, 214–15, 217
 and re-enculturation, 216
 evolutionary invention of, 214
 history of, 44–45
- Cybernetic structure or model, 293–94, 295
- Darwin, Charles, 41. *See also* Evolution
 and emotions or attitudes, 65
 of indignation or outrage, 68
 on free will, 63, 71
 on grandeur of natural selection, 73
 and moral responsibility, 64
 and new concepts, 57
Darwin and Design (Ruse), 40
- Davidson, Donald, 3, 124–25, 126, 133, 153, 160n.6, 162n.31
- Davidson's principle, 127–28
 and intention examples, 129–31
- Davies, Paul Sheldon, 11
- Decision-making
 computational models of, 314
 and control theory, 307, 308
 Kant on, 176
 research in, 169
- Decoupled representation, 210, 211–12
- Deficit schema, 325
- Déjà vu experiences, 341
- Deliberation, with others, 163n.33
- Delta-learning rule, 305
- "Delusional stance," 327
- Delusions, and schizophrenia, 323, 326–27, 343
- Dennett, Daniel, 3, 6, 8
 and agent-centered view of agent-control, 81
 on brain function, 7
 and distributed mind hypothesis, 12
 on frame problem, 310, 312–13
 on law of effect, 115
 and massive modularity, 145

- Dennett, Daniel (cont.)
 on mind and self, 111, 113
 on natural selection, 311
 on nonconscious elements, 107–108, 109
 vs. conscious, 119n.6
 and philosophical libertarianism, 290
 on responsibility, 71
 on “semantic” or “phenomenological” level, 304
 and thought experiments, 13, 184
 and will, 3
 Descartes’s conception of, 5
 and free will, 11, 315, 317n.1
- Descartes, René, 2, 5–6
 and Cartesian theater, 54–55, 113
 on mechanics of lighter and heavier bodies, 180–81
 on soul, 95
 vs. will as habit, 9
- Determinism
 and conversability, 71
 and free will, 61
 mechanical, 4
 and morality, 31
- Developmental questions,
 Wittgenstein’s emphasis on, 157, 163n.37
- De Waal, Franz, 66, 67, 74
- Differential specialization, 269
- Differentiated control, 263
- Disconnection hypothesis, 334–35
- Discounting, hyperbolic, 172–73, 174, 187–88, 189, 192
- Discrepancy creation, and control-theoretic models of self-regulation, 297, 299–302
- Distributed agency, 12, 156–57, 158
 vs. autonomous, 118
- Distributed coalitions, 115
- Distributed cognition, 6, 9, 343. *See also*
 at Control
 and agency, 290
 comparisons of, 257, 259
 executive control system lacking in, 255
 and high-level control model, 278–79, 280
 and volition, 255, 257
- Distributed cognitive economy, 110, 118. *See also* Nonconscious cognitive processes
- Distributed control, 6–7
 in ant colony, 96
 and will, 6
- Distributed empirical will, 54–55
- Distributed mind hypothesis, 12
 and schizophrenia, 15
- Distributed mind and self, 113
- Distributed process, 136
 in Wittgenstein’s *Investigations*, 158
- Distributed representation, 332
- Distributed self, 116
- Distributed society, 145
- Distributed systems, 102. *See also*
 Ecological control
- Diversity, as complexity benefit, 264
- Doing-as-causing, 133
- Dopamine, 332
- Dopaminergic epistemology, in schizophrenia, 342
- Downstream niche construction, 211–12
- Drescher, Gary, 97
- Dualism, 3
 Christian, 2
 and distributed control of behavior, 6
- Dynamical systems paradigm, 257
- Eccles, John, 79
- Ecological control, 101–104, 117, 118
 Ismael on, 120n.10
 and role of conscious mind, 110, 115–16
 soft, 118
 and unfolding of self, 112

- Eddington, Arthur S., 80–81
- Ego, and robotic cells, 95. *See also* Self
- EGT (evolutionary game-theoretic)
 approaches, 201, 202, 209, 212
- Einstein, Albert, 73
- Elephant-thoughts example, 148, 154
- Eliminativism, about folk psychological notions, 317
- Elman, Jeffrey, 331, 332, 343
- Emotion-driven inertia, 242
- Empirical will, 49, 51–52, 53, 54, 155
 as distributed, 54–55
- Enculturation, 213, 214–15, 217. *See also* Culture
 and re-enculturation, 216
- Environment
 and boundaries of will, 7
 control functions off-loaded onto, 111
 and perspect theory, 233
 social, 7–8
 technologies in, 134
- Environmental variables, 291
- Epiphenomenon
 self as, 199
 will as, 50
- Episodic control, 278
- Epistemic action, 313–14
- Epistemic values, 346
- Epistemology of schizophrenia, 342
- Error, and point of view, 252n.22
- Error regulation and repair, 266
- Errors of inclusion, 241–42
- Errors of omission, 242
- Error theory of free will and moral responsibility, 63–64, 71, 72, 72–73
- Evolution. *See also* Darwin, Charles
 and blaming, 72
 of communication, 97
 and high-order control, 255, 257, 259–62, 269–70
 and neural evolution, 270–77
 of intelligence, 270
 in great apes, 279
 and neural bottleneck problem, 207
 from Skinnerian to Popperian creatures (Dennett), 97
- Evolutionary games, 208–13, 218
- Evolutionary game-theoretic (EGT)
 approaches, 201, 202, 209, 212
- Evolutionary history, and orientation toward inquiry, 46–47
- Evolutionary theory
 and error theory, 72
 and reactive attitudes, 65–66
- Exclusivity, and intention-action connection, 48
- Executive authority, 137
- Executive function, 146
 in agentic function, 148
 and A/not-B task, 152
 central, 150
 in childhood, 147
 and hierarchy of control systems, 310
 and neurotic behaviors or phobic fears, 154
 in prefrontal cortex, 257
- Executive systems, 255
- Expectancy belief, 303
 in goal-decisions model, 303, 305
- Expert performance, 126, 131–32, 149, 152–53. *See also* Skill memory
 as automated, 135
 and consciousness, 144–45
 “External scaffolding,” 315
- Facilitated communication, 22, 53
- Faculty psychology, 1, 3, 324
 vs. will as habit, 9
- Fatigue, errors from, 242
- Feedback
 from body to brain, 20
 in control theory, 294
 and feed-forward, 20
 in high-order control systems, 270
 interface, 314

- Feedback loop
 internal, 303
 negative, 293–94, 300, 302, 303
 in recurrent network, 331
 and temporal information, 332
 Fehr, Ernst, 66
 Fight or flight response, 273
 “Finding Structure in Time” (Elman), 332
 First-person responsibility, 31
 Flexibility
 of action control, 282
 and frame problem, 313
 behavioral (and cognition), 259
 “Flow,” 131. *See also* Expert performance
 Fluid behavior, and light, 309
 Fluid intelligence, and attentional control, 279–80
 Fodor, Jerry, 111, 308–309, 310, 314, 315
 Frame Problem, 240–43, 308–309
 and control theory, 290, 309–15
 Frames, 239
 Framing effects, 237, 249n.16
 Frank, R., 65, 66, 69
 Frankfurt, Harry, 71
 Frayn, Michael, 95
 “Freedom and Resentment” (Strawson), 64–65, 83
 Free riders, and altruistic punishment, 66
 Free will, 2–3, 8, 47
 and applied psychology researchers, 289
 arguments against, 61–62
 belief in, 63, 72, 73–74n.4
 and computational models, 314
 and conceptual imperialism, 40
 and positive aim of imperialist inquiry, 41
 and consciousness (Locke), 292
 conundrum of, 188–89
 as dubious concept, 44
 error theory of, 63–64, 71, 72, 72–73
 as experience of willing, 47–48
 experiential defense of, 62–63
 and high-order control account, 281–82
 illusion of, 70, 71, 72–73
 and moral responsibility, 2, 72
 and reactive attitudes, 67–71, 74n.9
 Strawson on, 64–65, 83
 and readiness potential for action, 79–80
 and self-regulation theories, 291
 as spread over time, 108
 Friston, Karl, 334
 Frith, Christopher, 334, 335
 Fulford, Bill, 326
 Functional coherence, 265
 Functional complexity, 263–64
 and hierarchically structured regulation, 269
 integration pressure from, 264–67
 Gage, Phineas, 171
 Galileo, 180, 181
 Gallagher, S., 109
 Game determination, 213–18
 Game theory
 evolutionary games, 201, 208–13, 218
 game determination in, 213–18
 intertemporal bargaining game, 177
 Prisoner’s Dilemma, 66, 174, 176–78, 192, 204
 team games and short-run games, 219
Gaslight (movie) and *Gaslight Effect*, 344–45, 346
 Gazzaniga, Michael, 50, 145, 146
 “Ghost in the machine,” 159, 170
 Giorello, Giulio, 95
 Global workspace, 145, 284n.12
 Goal(s)
 accounts of lacking, 227

- and integrated information processing, 255
- and motivation (Locke), 305
- and self-regulation theories, 291
- and volition, 281
- Goal agent, 294, 311–12, 313
- Goal-directed action, 275, 276
- Goal-setting theory, 290, 292
 - and belief in self-efficacy, 302
 - and control theory, 295, 306–307, 316
- Goal striving, and control-theoretic models of self-regulation, 296–97, 298, 299
 - and discrepancy creation, 297, 299–302
- Grooves, in nervous systems, 56–57
- Habit, will as, 8–9
- Habituated behaviors, 126
- Hamilton, William, quoted, 93
- Headlong* (Frayn), 95
- Hierarchical organization or
 - architecture, 268–69. *See also* Central systems; *at* Control
 - in autonomous system, 273–74
 - in brain (prefrontal cortex), 14, 257
 - of control systems, 310
 - and discrepancies in higher level goal agents, 300
 - marketplace model as alternative to, 173
- Hierarchical structuring, in vertebrate somatic motor system, 274–77
- High-level cognition, 277
- High-order control or regulation, 255–57
 - and central system, 277–80 (*see also* Central systems)
 - and control-theoretic models, 308
 - evolution of, 255, 257, 259–62, 269–70
 - and neural evolution, 270–77
 - and frame problem, 312, 315
 - and integration pressure, 267–70
 - as metacontrol, 268
 - and theory of volition, 282
 - vertebrate autonomic system as, 272–74
- Hijacking cases, 130–31, 138, 145, 153
- Hippocampus, 325, 334
- Historical-cultural evolutionary change, 218
- Hitchcock, Christopher, 141–42
- H.M. (brain lesion case), 324–25
- Homunculus and homunculus problem, 243, 305
- Human functioning, machine metaphor of, 295
- Hume, David, 2, 71, 161n.24
- Husserl, Edmund, 336–40
- Hyperbolic discounting, 172–73, 174, 187–88, 189, 192
- Hypothalamus, 275
- “I.” *See* Self
- Ideal causal agent, 49, 53, 57–58
- Ignorance, 242
- Illusion of Conscious Will, The* (Wegner), 39, 59n.8
- Illusions
 - of authorship of others’ actions, 20
 - déjà vu experiences as, 341
 - of own authorship, 32
- Illusion of self, 118
- Illusion of volition, 255
- Illusion of will, 10, 49, 57, 80, 317n.1
 - of free will, 70, 71, 72–73
- Imitation or mimicry, in coaction, 18, 28
- Imperialism, conceptual, 40–41, 47, 295
- Impulsiveness, 172–73. *See also* Weakness of will; Willpower
- Inactivation errors, 242
- Inclusion, errors of, 241–42
- Incompatibilism, 291, 317

- Inconsistency(ies), 9. *See also*
 Noncontradiction
 and cognitive integrationism, 230
 and perspectives, 243
 and situation relevance, 238
- Inconsistent cognitive adherence, 231
- Incontinence, Aristotle on, 176. *See also*
 Weakness of will
- Indeterminism, 61
 in objection to control theory, 307
- Individual differences, in intelligence
 (humans), 280
- Individualism, 198
 and biological individuals, 208
 brain-level vs. person-level, 207
 and neoclassical theory, 197, 198, 198–99
 and neuroeconomics, 206, 208
 normative, 201, 220n.3
 and selves, 199–202, 210
 strong and weak, 200
- Inertia, emotion-driven, 242
- Infants, perseveration among, 151
- Information, social, 23–28, 29–30
- Information processing, 6
 and schizophrenia, 343, 344
- Inhibition, 140
- Inquiry, orientations toward, 40–41
 naturalism, 41–42
 and evolutionary history, 46–47
 and history of culture, 44–45
 and history of science, 42–44
 and human psychology, 45–46
- Integrated information processing, 255
- Integrationism, cognitive, 228–30
 and cognitive heuristics and biases, 238
- Integration pressure
 from functional complexity, 264–67
 and high-order regulation, 267–70
- Intelligence
 evolution of, 270
 in great apes, 279
 fluid, 279–80
- Intention
 and action, 21, 48–49, 54, 129–31
 and belief, 162n.31
 on Davidson's principle, 127, 129
 hijacking of, 129–31
 as inferred cause of action, 49–50
 and interpretive system, 53
 and nonconscious cognitive processes, 50
 as primitive (Bratman), 155
 in thought experiment on willpower, 186–87, 187
 tracking of, 170
 and will, 173
- Intentionality, and blame, 72
- Interactionist approach, 295
- Interpersonal communicative
 coordination, 11–13
- Interpersonal dynamics, 7
- Intertemporal bargaining, 173–74, 177, 185, 189, 192
- Introception, 19, 29
- Introspection, willpower unavailable to, 178
- Intuition(s)
 about higher level mental processes, 192
 of incompatibilism, 291, 317
 of libertarians, 31, 317
 and philosophical objections, 316–17
 and thought experiment, 180, 184, 184–85
- Ironic processes, 147–48, 153–54
- Ismael, Jenann, 116–17
- Isotropy, 308–309, 314
- James, William, 178–79, 289
- Jaspers, Karl, 328
- Johnson, Samuel. quoted, 61, 63
- Kahneman, Daniel, 182, 237
- Kant, Immanuel, 42, 69–70, 124, 144, 158, 176

- Kavka's problem, 186–88, 189, 192
 Keynes, John Maynard, 222n.15
King Lear (Shakespeare), 343
- Lacan, Jacques, 330
 Language
 and “spin,” 346
 thought experiments on, 181–82
 Wittgenstein on, 157
 Lanning, Alfred J., quoted, 289
 Law of effect, 115
 Leibniz, Gottfried Wilhelm, 180–81
 Libertarianism, philosophical, 289, 296
 and applied psychology, 290
 and distribution of scientific resources,
 316
 Libet, Benjamin, 5, 7, 79
 “Life force,” 42
 Limbic system, 274
 Limited warfare, 173–74
 and Prisoner's Dilemmas, 176
 Lloyd, Dan, 211
 Localized process, 136
 Locke, E. A., 295, 296, 299, 302, 304,
 305, 315, 317
- Mach, Ernst, 180, 181
 Machines, and humans, 295, 296. *See also* Mechanistic explanation
 Magical thinking, 190, 191. *See also*
 Agency and agents; Authorship
 Making things happen, 146–48
 Management. *See* Control
 Management function. *See* Executive
 function
 Manager, perspect (pmanager). *See*
 Pmanager
 Marx, Karl, and Marxism, 198, 200
 Massive modularity, 145–46
 Mass media
 and civil schizophrenia, 345–46
 obedience to, 19
 McCauley, Robert, 45
- McEwan, Iain, 78
 McFarland, David, 96, 97
 Mechanical determinism, 4
 Mechanistic explanation, 289–90
 and control theory, 290 (*see also*
 Control theoretic models of self-
 regulation; Control theory)
 and folk psychological notions, 291,
 317
 and free will, 315
 and reductionism, 43
 Memory
 declarative vs. procedural, 325
 working, 145, 248n.8, 332
 Mendel, Gregor, 316
 Mental causation, 21. *See also* Agency
 and agents; Authorship; Control
 apparent (theory of), 21, 47, 48–50,
 52, 53, 56, 57
 from inaccessible center of control, 88
 and motivationism, 127
 Mental task, 234
 Metacontrol, 268
 Michotte, Albert, 48, 52, 58n.4
 Microeconomic theory, 197
 Micromanagement, 153, 154, 269
 Mid-life crisis, 204
 Milgram obedience studies, 23
 Mimicry, 18
 Mind
 “official doctrine” of, 28–30, 32
 perspect-structured, 244
 as shifting coalition, 111–15
 “Mindblind” persons, 27
 Mind information, and authorship, 21–
 23
 Minimal constraints approach, 217
 Misperception, 242
 Mobilization errors, 242
 Modularity, 273, 308
 massive, 145–46
 and molarity, 146
 and popularity of cognitive modules, 3

- Modulation, and schizophrenia, 333, 344
- Molarization of behavior, 132, 135
- Molecularization of agents, 156, 158
- Monitoring. *See* Self-monitoring and monitoring
- Montague, P. Read, 206, 207
- Monterosso's problem, 186
- Moral culture
and agency, 4–5
persons at center of, 8
- Morality
and denial of free will and responsibility, 73
and determinism, 31
lazy and conventional, 14–15
- Moral responsibility, 2, 11, 55, 72–73.
See also Robust moral responsibility arguments against, 61–62
and free will, 2, 72 (*see also* Free will)
- Motivation, 149
and agency, 1
and applied psychology, 289
and avowals, 155
and belief in self-efficacy, 304, 307, 317
computational models of, 314
discrepancy creation aspect of, 300
in ironic processes, 154
Locke on bases of, 305
and policies, 155
preponderant, 127
and self-regulation theories, 291
and weakness of will, 153 (*see also* Weakness of will)
- Motivational states, and self, 173
- Motivationism, 126–29, 131
cases outside scope of, 149
and intention examples, 129–31
and neurotic behaviors, 154
- Motor system, 276
- Narrative self, 104, 113, 117, 204, 205
- Naturalism, 41–42
vs. conceptual conservatism, 58
and evolutionary history, 46–47
and history of culture, 44–45
and history of science, 42–44
and human psychology, 45–46
and responsibility, 71
of Wegner, 47–50
- Naturalistic philosophers, 10
- Neoclassical consumer theory,
behavioristic, 205
- Neoclassical (revealed-preference)
formalism, 198, 213, 220n.2
- Neoclassical modeling theory, and
rational choice theory, 222n.15
- Neoclassical preference theory,
Samuelsonian, 219
- Neoclassical theory and models, 197,
198–99, 202, 219
and consumer theory, 205–206
and emotional response, 222n.15
and selves, 199, 200, 202
as epiphenomena, 199
socially scripted, 205
- Nervous system, 98
and automata, 94
- Neural architecture, vertebrate vs.
arthropod, 258
- Neural evolution, and evolution of
high-order control, 270–71
centralization in, 271–72
vertebrate autonomic system,
272–74
vertebrate somatic motor system,
274–77
- Neural plasticity, 101
- Neuroeconomics, 206–208, 212
and evolutionary game theory,
212
- Neuromodulation, and schizophrenia,
333
- Neurons, evolution of, 271
- Neuropsychology, 324–25
- Neuroscience

- and agent-control, 78, 79, 81, 85, 88–89
- cognitive, 277, 324
- Neurotic behaviors, 154
- Newcomb's problem, 189–92
- Newton, Isaac, 139
- Nietzsche, Friedrich
 - vs. Cartesian dualism, 2
 - on *causa sui*, 61
- Nonconscious cognitive processes, 106–10
 - and intentions, 50
- Nonconscious priming, 50, 54
- Noncontradiction, 203, 220–21n.6. *See also* Inconsistency(ies)
- Non-individualism, 200, 201
 - problems with, 201–202
- Normal production process, 133–34
- Nurses' work schedule study, 296–97, 298, 299, 309–10, 314

- Obedience, 18–19
- Obedience studies by Milgram, 23
- Omission, errors of, 242
- Ontological reductionism, 43–44
- Order, 262
- Organization of control, 136–37, 141–42
- Orientations toward inquiry. *See* Inquiry, orientations toward
- Orthonomy, 83, 84, 87, 89
- Ouija board, and coercion, 22
- Ownership. *See also* Authorship; Responsibility
 - of action (will as), 170
 - of behavior, 124–25, 126 (*see also* Agency)
 - and recursiveness within will, 189
 - study of, 170

- Pampered Prisoner case, 179–80, 184
- Parahippocampal gyrus, 334
- Parallel distributed processing, 332

- Passive dynamic walkers (PDWs; "artificial walkers"), 102–103, 117, 311
- Peloponnesian wars, erosion of discourse in, 346
- Pendulum, Chevreul, 147, 153
- Perceived control, 51
- Perception
 - through mass media, 345
 - perceptual systems and self, 7
 - in schizophrenia, 341–42, 343
- Perseveration, 151
 - weakness of will as, 153
- Personal responsibility. *See* Responsibility
- Personas, 230–31
 - diverse or dueling, 243–46
- Person(s) or people, 8
 - vs. biological individuals, 8, 208, 213, 221n.10
 - as cultural niche-constructors, 214
 - and economics, 13
 - and enculturation, 213, 215
 - and mind's workings, 29
 - as self-perceiver rather than self-knower, 29
 - and whole agent, 6
- Perspect, 247nn.6,7
 - and persona, 245
- Perspective, 228
 - and inconsistencies, 230
- Perspective manager, 248n.9
- Perspect manager. *See* Pmanager
- Perspect theory, 230–32, 246
 - and Frame Problem, 240–43
 - and larger mental system, 239
 - and shifting standpoints, 232–34
 - situation-relevance in, 234–40
 - and Frame Problem, 241
 - and inconsistencies, 243
- Pettit, Phillip, 11, 71
- Phantom-limb experiences, 20, 79
- Phenomenal self-model, 99n.3

- Phenomenology, temporality in, 336, 340
- Philosophical libertarianism. *See* Libertarianism, philosophical
- Philosophy and philosophers. *See also* Aristotle; Descartes, René; Hume, David; Husserl, Edmund; Kant, Immanuel; Wittgenstein, Ludwig
- and at-will thinking, 124
- Christian (on will), 1–2
- current, 3
- and Davidson on agency, 125
- disgruntlement of, 12
- and incompatibilism, 317
- and motivationist account, 129
- naturalistic, 10
- and self, 95
- situational influences neglected by, 227
- transcendental, 158–59
- and will, 3
- free will, 3, 8, 73
- Phobic fears, 154
- Physically coupled action, 18
- Physics, thought experiments in, 181
- Physiological disruption, errors from, 242
- Piaget, Jean, 151
- Plagiarism, 30
- Pmanager (perspect manager), 14, 232–33, 235, 241, 248–49n.10, 251–52n.21
- deficient situation sense of, 243
- and persona, 244
- perspect-switching system of, 243
- Posner, Eric, 179
- Potemkin correspondents, 345
- Power, as complexity benefit, 264
- Pragmatic context, 230, 231, 234–35, 238
- recalcitrant habits in, 243
- Pragmatic-context-irrelevant information, 238
- Predestination, 191
- Preemption, 141–42
- Preferences, 211
- Prefrontal cortex. *See also* Brain
- cognitive control in, 277
- episodic control in, 282
- in schizophrenia, 334
- and task-relevant rules, 280, 281, 282
- and volition, 257, 281
- Preoccupation, affect-driven, 242–43
- Priority, and intention-action connection, 48
- Prisoner's Dilemma game, 66, 174, 176–78, 192, 204
- Problem-solving, 135–36
- and control theory, 307, 308
- and “isotropy” (Fodor), 308–309
- Progressivism, conceptual, 41, 57
- Proprioception, 19, 20, 29
- Prose, Francine, 17
- Protocol, 136, 138, 159
- Protraction errors, 241–42
- Psychologically coordinated action, 18
- Psychology, applied, 289
- and control theory, 295
- and environmental variables, 291
- self-regulation in, 291–296 (*see also* Self-regulation paradigm or theory)
- Psychology, and orientation toward inquiry, 45–46
- Punishment, altruistic, 66
- Radio telescopes analogy, 233–34
- Randomizing processes, 315
- Ratio-difference principle, 249n.16
- Rational choice theory (RCT)
- and instrumental bases of social transactions, 179
- and neoclassical modeling theory, 222n.15
- and willpower, 171–72
- thought experiments on, 192
- Rational decision theorists, atomic model of, 156

- Rational inquiry, vs. Gaslight Effect, 346
- Rationality, 66–67. *See also* Reason(ing)
 and agency, 1
 and behavior, 71
 bounded, 220n.2
 collective vs. individual, 163n.33
 and noncontradiction, 220–21n.6
 violations of, 182
- Reactive attitudes, 64–66, 74n.9
 and belief in free will and RMR, 67–71
- Readiness potential for action, 79
- Reason(ing)
 and agency (Aristotle), 144
 in agency-motivation relationship, 1
 answerability to, 15
 and control theory, 137
 and conversability, 82–84
 and machinery of self, 109
 and motivationism, 126
 in problem-solving, 135
- Reasons
 and action, 125
 and agency, 7, 125
 and causes, 3
- Recurrence, 343
- Recurrent network, and schizophrenia,
 331–36, 340. *See also* Simple
 Recurrent Network
- Recurrent process, in information
 presentation, 345
- Recursively agent-generating practices,
 113
- Recursive self-prediction, 176–78
- Reductionism, ontological, 43–44
- Reflex behavior, 276–77
- Regulation. *See also at* Control
 and functional complexity, 266
 high-order, 267–70
- Relational action management, 283n.1
 in evolution of high-order control, 262
- Representation
 construction of in time, 332
 decoupled, 210, 211–12
 nonsentential, 250–51n.19
 in perspect system, 236
- Resolve, 174. *See also* Willpower
- Responsibility, 56, 57. *See also*
 Authorship
 first-person, 31
 and mechanistic explanation, 289
- Responsibility, moral, 2, 11, 55, 72–73.
See also Robust moral responsibility
 arguments against, 61–62
 and free will, 2, 72 (*see also* Free will)
- Retention (Husserl), 336, 337, 338, 339
 and schizophrenia, 340–41
- Rewards, bundling of, 174–76
- Risk aversion, 207
- Robotics, situated, 290
- Robotics paradigm, behavior-based,
 257
- Robots, 94
 examples of
 Asimo, 102, 103
 Robotoddler, 103, 103–104
 Shakey, 102
 as self, 95
- Robust moral responsibility (RMR), 63,
 73n.3
 and free will, 64, 72
 as illusion, 72
 and reactive attitudes, 67–71, 74n.9
 Strawson on, 64–65
- Robust tracking, 211
- Ross, Don, 70, 112–13
- Rule-defined practice, 163n.37
- Ruse, Michael, 40
- Ryle, Gilbert, 29, 32, 159, 170
- Samuelsonian neoclassical preference
 theory, 219
- “Scaffolding, external,” 315
- Scheduling task study, 296–97, 298,
 299, 309–10, 314
- Schemas, 241
- Schizogenesis, social, 344

- Schizophrenia, 15, 323–24
 and brain, 325, 334, 342
 causes of, 325
 and deficit schema, 325
 as disorder of context, 330
 as disruption in cognitive flow, 343–44, 344
 and Gaslight Effect, 344–45, 346
 dopamine hypothesis on, 332–33
 epistemology of, 342
 illusions about others' actions in, 20, 30
 localized dysfunctions in, 335
 and patient interview, 328–30
 prognosis for, 323–24, 346
 and recurrent processing, 333–36
 and cognitive dysmetria, 334
 and disconnection hypothesis, 334–35
 and supervisory attentional system, 334
 as social dysfunction (civil schizophrenia), 346–47
 symptomatology of, 326–30
 and temporality, 336, 340–43
- Schizotypal Personality Questionnaire, 327
- Schlink, Bernhard, quoted, 123, 125
- Science. *See also* Cognitive science; Neuroscience; Social science
 of action, 125, 126, 138
 and agency, 14, 124, 139
 cognitive, 14, 257
 and common sense, 80–81
 and conventional “morality,” 14–15
 history of, 42–44
 interdisciplinary, 7
 and self, 10
 and will, 4–6, 8, 10
 Dennett on, 3
- Script, 135, 137, 241
- Self (selves), 13, 104–106, 203–204
 and anti-individualism, 205
 vs. brains, 208
 as Cartesian soul, 95
 and communication, 95–97
 and conceptual imperialism, 41
 Dennett on, 113, 118
 and distributed mind hypothesis, 12
 and EGT models, 209
 in evolutionary and strategic dynamics, 212
 hierarchical model of, 173
 as illusion, 118
 and individualism, 199–202
 as integrating internal bargaining communities, 207
 and mechanistic explanation, 289
 and neoclassical economics, 199, 200, 202
 as epiphenomena, 199
 socially scripted, 205
 and nonconscious cognitive processes, 106–10, 115–16
 and non-individualism, 200
 revamped image of needed, 15
 and robotic cells, 95
 and science, 10
 as shifting coalition, 111–15, 134
 in social cognitive theory, 293
 and social games, 210
 and social pressure, 202, 204
 and social processes, 219
 soft-selves, 112, 114, 115, 116, 134, 247n.2
 and stabilization, 10, 13, 70, 114–15, 201, 203
 strategic signalers as, 98
 transcendental vs. empirical view of, 159
 uncertain boundaries of, 105
 as unit of accountability, 87
 and whole agent, 6
 and will, 8
- Self-awareness, and schizophrenic disorders, 327

- Self-control, thought experiments on, 183. *See also* Willpower
- Self-efficacy, belief in, 292–93, 302, 316
 measurement of, 303
 and motivation, 304, 307, 317
 neurophysiology vs. psychology in modeling of, 307
 source of, 306
- Self-governance, 117, 117–18, 120n.9
- Self-model, 116–17
- Self-monitoring and monitoring
 and action-monitoring approach to consciousness, 284n.12
 and action-perception loop, 343
 and automata, 94
 of communication, 96–98
 control systems without, 96
 by higher order control systems, 315
 and schizophrenia, 334
- Self-organization, 116, 117, 120n.9, 265–66, 267
- Self-prediction, recursive, 176–78
- Self-regulation paradigm or theory, 290.
See also Control theoretic models of self-regulation
 and applied psychology, 291–96
 cognitive, 295
 and goal setting, 292
 and social cognitive theory, 292
- Self-representation, 116
- Sellars, Wilfred, 80
- Semi-automation, 130–31
- Sensory control, 277–78
- Shakey (robot), 102
- Sherrington, Charles S., 5–6, 20
- Simple Recurrent Network (SRN), 331–35, 339, 340, 343
- Situational filter, 234
- Situational influences, 227
- Situation construal, recalcitrant habits of, 243
- Situation-relevance, in perspect theory, 230, 234–40
 and Frame Problem, 241
 and inconsistencies, 243
- Situation sense, deficient, 243
- Skill memory, 274–75. *See also* Expert performance
- Smith, Adam, 198
- Social accounting, and authorship, 30–32
- Social circumstances of action, 19
- Social cognitive theory, 290, 292–93
 and belief in self-efficacy, 302
 and control theory, 295, 306–307, 316
- Social dynamics
 vs. cultural dynamics, 210
 and selves, 219
- Social environment, 7–8
- Social exchange systems, and experience of authorship, 32
- Social factors, in empirical will, 54
- Social feeling, Bain-James exchange on, 178–79
- Social information or pressures, 23–28, 29–30
 and will, 28, 29
- Social interactions, and utility functions, 218–19
- Socially scripted selves, 205
- Social rewards and punishments, and belief in RMR, 71
- Social schizogenesis, 344
- Social science, 155–57
- Social stability, and answerability to reason, 15
- Soft-assembly, 103
- Soft ecological control, 118
- Soft-selves, 112, 114–16, 134, 247n.2
- Sort/switch task, 152
- Soul, and robotic cells, 95. *See also* Consciousness; Self
- Specialization, differential, 269
- Specificity, as complexity benefit, 264
- “Sphexish” behavior, 312, 314, 318n.15

- “Spin,” 345–46
 and “values,” 346
 Spinoza, Baruch, 63, 64, 71
 Split-brain patients, 50, 54
 SRN (Simple Recurrent Network), 331–35, 339, 340, 343
 Stanford Research Institute, robot of (Shakey), 102
 Stelarc, 119n.2
 quoted, 101
 Sterelny, K., 210, 211–13, 214
 Stereotypes, 241
 Strategic action control, 283n.1
 in evolution of high-order control, 262
 Strawson, Galen, 62
 Strawson, Peter F., 64–65, 66, 83
 Structural constraints, 265, 267
 training wheels as example of, 283n.4
 Structurally divided mind, 228
 Structure of control, 141–42, 144, 155
 Subjective awareness, 284n.12
 Sully, James, 176
 Supervisory attentional system, 334
 Swanson, William, 30
- Talleyrand, Charles-Maurice de, quoted, 93, 98
 Task learning, abstractive, 280
 Temporality, 336–40
 and déjà vu experiences, 341
 and schizophrenia, 336, 340–43
 Thaves, Bob, 17
 Theory of action, and control, 143
 Theory of apparent mental causation, 21, 47, 48–50, 52, 53, 56, 57
 Thinking-of-elephants example, 148, 154
 Thought experiments, 12–13, 170, 180–83, 192
 on willpower, 183–86, 192
 free will conundrum, 188–89
 Kavka’s problem, 186–88, 189, 192
 Monterosso’s problem, 186
 Newcomb’s problem, 189–92
 Thucydides, on erosion of discourse, 346
 Time, 330, 332, 335. *See also* Temporality
 Top-down control. *See also* High-order control or regulation
 anatomical basis to, 284n.14
 architecture of, 277–79
 Top-down theorists, 169
 Topic-relevance, 229, 238, 238
 Training
 in agency, 132, 151
 for expert performance, 152–53
 Transcendental philosophers, 158–59
 Transcendental stance, 137
 Transparent equipment, 106
 Trivers, Robert, 65, 66
 Tversky, Amos, 182, 237
- Unwritten Rules of Management* (Swanson), 30
 Utility, 202–203
 of Von Neuman-Morgenstern, 206
 Utility function, 203
 and enculturation, 213, 214–15
 “teaming” of, 218–19
- Velleman, J. D., 116
 Vertebrate autonomic system, as high-order control system, 272–74
 Vertebrate somatic motor system, in hierarchical structuring, 274–77
 Viswanathan, Kaavya, 30
 Volition, 280–82, 284n.16. *See also* Will
 and distributed cognition, 255, 257
 evolutionary pressures on, 277
 features commonly associated with, 281
 and skilled motor actions, 276
 Von Neumann-Morgenstern utility, 206

- Wallace, Alfred, 41, 57
- Watson, James D., 316
- Weakness of will, 127–28, 137, 149, 153, 155, 160n.6
 Aristotle on (incontinence), 176
- Wegner, Daniel, 8, 59n.8
 and Ainslee, 96
 on brain, 7
 conceptual conservatism of, 50–57
 on ironic processes, 147–48
 on mechanical influence, 94–95
 and will, 5, 39, 40, 47, 57, 128, 170, 317n.1
- Wernicke, Carl, 324
- Wiener, Norbert, 14, 293
- Will, 1, 170, 189. *See also* Weakness of will
 and act-of-will picture, 78, 81 (*see also* Act-of-will picture)
 Aristotle on, 143–44
 assumptions about, 192
 at-will behaviors or performances, 123–24
 and authorship, 28
 as black box, 4, 5, 13, 185
 and causality, 192
 and coercion, 28, 32
 and Davidson's principle, 127
 Descartes's conception of, 2, 5–6
 and distributed control, 6–8 (*see also at* Distributed)
 and economics, 13
 empirical, 49, 51–52, 53, 54, 155
 as distributed, 54–55
 and environmental conditions, 5
 as epiphenomenon, 50
 as experiential indicator, 31
 and first-person responsibility, 31–32
 and free will, 2–3, 8, 47, 61–62 (*see also* Free will)
 as habit, 8–9
 illusion of, 10, 49, 57, 80, 317n.1
 of free will, 70, 71, 72–73
 and indicators of authorship, 19
 and intention, 173
 and intention-action sequence, 21
 micro and macro factors in, 4, 7
 and motivation (Locke), 305
 and philosophy
 current, 3
 and free will, 8
 traditional, 1–2
 revamped image of needed, 15
 and science, 4–6, 8, 10
 Dennett on, 3
 and self, 8
 and social pressures, 28, 29
 study of, 170–71
- Wegner's discussion of, 39–40, 47–50, 128 (*see also under* Wegner, Daniel)
 and conceptual conservatism, 50–57
- Willpower, 9, 171–72
 and bundling of choices, 176
 and hyperbolic discounting, 173
 and intertemporal cooperation, 174
 and neoclassical economics, 199
 and recursive self-prediction or self-observation, 178, 183–84
 theories of, 173
 thought experiments on, 183–86, 192
 free will conundrum, 188–89
 Kavka's problem, 186–89, 192
 Monterosso's problem, 186
 Newcomb's problem, 189–92
- Wittgenstein, Ludwig, 157–58, 163n.37
- Working memory, 145, 248n.8, 332
- Zelazo, P. D., 151–52

