

INDEX

- absolute pitch, 282–283
 acetylcholine (ACh), 45, 101
 action potential, 44–46, 48–50, 101–103, 140, 176, 242
 adaptation
 adaptive specializations, 120–123, 126, 128, 143–144
 common adaptation, 22, 67
 ontogenetic adaptation, 402, 416
 affordance learning, 398, 400, 408–409
 algorithm, 229–230, 251
 amnesia, 75, 77, 82, 88, 140
 amygdala, 76, 136, 240, 304, 382
 analog magnitude representation, 205, 211
 ant, 159–160, 223, 415
 anthropomorphism, 9
 ape
 bonobo (*Pan paniscus*), 255–256, 260, 266, 356, 362, 381, 386
 chimpanzee (*Pan troglodytes*), 5, 13–14, 30, 85, 91, 163, 206–208, 248, 255–258, 260, 265–266, 285, 288, 309, 314–317, 319, 321–322, 324–327, 332, 337–338, 347–348, 350–351, 353–354, 356–360, 362, 364–365, 367–368, 370, 378, 381, 383–384, 386, 394–395, 409–410, 413–415
 gorilla (*Gorilla gorilla*), 85, 255–256, 272
 orangutan (Genus *Pongo*), 85, 155, 255–256, 260, 265–266, 279
 aposematism, 367–368
 approximate number system, 186, 195, 199, 201, 204, 207–208, 210–212
 Aristotle, 2, 107, 215, 271
 attachment, 355–356
 internal working model, 356
 strange situation test, 355–356
 attention
 attention deficit hyperactivity disorder, 63
 divided attention, 64, 66–67
 selective attention, 60–61, 66
 sustained attention, 61–64, 66
 audience effect, 369, 372
 autism spectrum disorders, 317–318, 330, 358
 aversive stimulus, 110
 axon, 45–46, 54, 101, 178
 bat, 24–25, 32–33, 38, 47, 67, 170, 291–292, 339, 343, 349, 371, 393
 Batesian mimicry, 370, 389
 Bayesian inference, 253
 beacon, 155, 157, 161–162, 164, 183
 bee, 3, 155, 189, 373, 375
 bumblebee (*Bombus impatiens*), 111, 189–190, 220
 honeybee (European, *Apis mellifera*), 3, 14, 85, 125, 155, 157, 159, 163, 169–170, 233, 275, 287, 366, 373, 375
 behavioral ecology, ix, 14, 17–20, 27, 29, 184, 235, 294
 behavioral economics, 214, 227, 245, 247
 behavioral neuroscience, 25–27, 106
 behaviorism, 11–12, 18–20, 29, 108
 methodological behaviorism, 12, 20
 radical behaviorism, 12
 bias, 40–41, 160–161, 226, 232, 237, 257, 332, 340, 393, 405, 413
 bidirectional control procedure, 407–408
 binocular vision, 35, 43
 biological motion, 310–311, 313, 330, 338
 bioluminescence, 34
 bird
 babbler (pied, *Turdoides bicolor*), 378
 blackbird (European, *Turdus merula*), 151, 397
 bowerbird (spotted, *Ptilonorhynchus maculatus*), 158
 chickadee (black-capped, *Poecile atricapillus*), 149, 178, 232, 395, 402
 chicken (*Gallus gallus domesticus*), 254, 321, 379, 381, 388, 397
 crow (Genus *Corvus*), 96, 111–112, 148, 185, 213–214, 235, 262–263, 265–266, 312, 314
 cuckoo (*Cuculus canorus*), 292
 drongo (fork-tailed, *Dicrurus adsimilis*), 378–379, 389
 finch (Genus *Cactospiza*, *Taeniopygia*), 8, 30, 40–41, 173, 217, 261, 265, 274, 283, 372
 goose (graylag, *Anser anser*), 15, 41, 57, 307
 hummingbird (rufous, *Selasphorus rufus*), 157–158, 186, 190
 jay
 blue jay (*Cyanocitta cristata*), 60, 62, 64, 274
 Mexican jay (*Aphelocoma wollweberi*), 148
 pinyon jay (*Gymnorhinus cyanocephalus*), 148
 Western scrub-jay (*Aphelocoma californica*), 95–96, 148, 328
 nutcracker (Clark's, *Nucifraga columbiana*), 148–149, 164
 parrot (African gray, *Psittacus erithacus*), 206–207, 255, 399
 pigeon (*Columbia livia*), 37, 51–52, 55, 58–59, 63, 70, 75, 111, 115, 117, 121, 128–129, 151, 161, 166, 169–173, 176–178, 182–183, 189, 194–195, 197, 206, 223, 225–226, 230–234, 250, 254, 278–280, 285–287, 294, 301–302, 307, 357, 392–393, 408–409
 quail (Japanese, *Coturnix japonica*), 3, 107, 127, 403, 408
 raven (*Corvus corax*), 96, 146, 328
 rook (*Corvus frugilegus*), 265, 357, 361
 sparrow (Genus *Spizella*, *Passerculus*, *Melospiza*, *Zonotrichia*), 281–282, 296, 302, 404–405
 starling (*Sturnus vulgaris*), 168, 172–173, 216, 230, 234–235
 tit (Genus *Cyanistes*, *Parus*, *Poecile*), 163, 217–219, 229, 297
 warbler (Genus *Sylvia*, *Setophaga*), 151, 186–188, 297
 birdsong, 281–282, 308, 404–406, 417
 blindsight, 54
 blocking, 60, 115, 124–126, 134, 144, 162, 171, 179, 253, 320
 bullfrog (*Rana catesbeiana*), 296
 butterfly (Genus *Danaus*, *Limenitis*), 59, 167, 169, 367, 370
 byproduct, 6, 40, 251, 269, 327, 354
 caching, 72, 95–97, 148–152, 154, 157, 164, 169, 175, 177, 182, 328
 camouflage, 51–52
 categories
 natural categories, 280, 306

- categorization
 functional categorization, 284–286, 306–307
 perceptual categorization, 277, 279–280, 282, 284, 299, 306–307
 relational categorization, 286–287, 295–296, 306–307
 social categorization, 272, 289–291, 295, 298–299, 302, 304, 306, 312
 category specific semantic deficit, 272, 303–304, 306–307
 causality
 arbitrary causality, 250, 269
 causal Bayes nets, 251–252, 267
 natural causality, 250, 269
 central place forager, 216
 cerebellum, 138, 145
 chameleon effect, 399
 chunking, 75, 336–337
 circadian rhythm, 169, 186, 188, 211
 classical conditioning, 93, 95, 101, 104, 108–115, 118–120, 124–129, 131, 133–136, 138–141, 143–145
 Clever Hans, 9–10
 cockroach, 170, 186
 coding, 48–50, 67, 176–177, 210, 243
 frequency coding, 48, 67
 population coding, 49, 67
 cognitive map, ix, 161–165, 175, 177, 179–180, 182
 compass, 154, 168–171, 173, 182–183
 geomagnetic compass, 151–152, 171, 173, 175, 182
 star compass, 170–171, 182
 sun compass, 168–171, 173, 182–183
 compensatory plasticity hypothesis, 43–44, 66
 computer science, x, 19
 concept formation
 elemental theory, 55, 299, 301–302
 exemplar theory, 300, 302, 306
 prototype theory, 301–302, 307
 conditioned avoidance, 114
 conditioned emotional reaction, 112, 143
 conditioned fear, 112–113, 115, 138
 conditioned response (CR), 109, 123, 129–130, 138
 conditioned stimulus (CS), 109, 113, 121, 124, 130, 135, 141
 conditioned taste aversion (CTA), 113, 143, 401
 conformity, 393–394, 406
 consciousness, 12, 24, 32, 81, 302
 conservation, 28, 60, 137, 174
 contagion, 315, 357–359, 397
 continuity hypothesis, 8
 continuous reinforcement, 116
 cooperation, 224, 291, 310, 333, 340, 343–344, 346, 353, 359–365
 cooperative breeding, 345, 349, 414
 cortex
 anterior cingulate cortex (ACC), 242, 343
 frontal, 215, 382
 frontal cortex, 63, 135, 192
 orbitofrontal cortex (OFC), 55, 136, 139, 242
 prefrontal cortex (PFC), 82, 85–87, 104, 139, 237–238, 240, 243, 245, 305, 330–331
 retrosplenial cortex, 179, 182
 ventromedial prefrontal cortex (vmPFC), 239, 245, 343
 coyote (*Canis latrans*), 34, 366, 382
 CREB, 100, 104, 141
 culture, 413–415
 cyclic AMP, 140
 dark adaptation, 51
 Darwin, x, 5, 7–8, 19–20, 22, 24, 29–30, 96, 340
 Darwin, 5, 7–9, 11, 20, 235, 271, 289, 340, 366, 435
 decision making, 218, 236, 243, 247, 277
 collective decision making, 221–224, 245–246
 value-based decision making, 241–243, 246
 delay discounting, 233
 dendrites, 45
 deoxyribonucleic acid (DNA), 20–21, 272, 292, 363, 372
 Descartes, 2, 246–247, 435
 devaluation, 129–131, 133, 379
 dictator game, 350–351, 354, 364
 directed social learning, 393, 406
 discrimination, ix, 54, 62, 186, 192, 195–197, 200, 202, 204–205, 207, 210, 224, 250, 266, 273–274, 277–279, 283, 285–286, 293–294, 314, 377, 406
 disinhibition, 128, 136
 dispersal, 148, 153
 distress calls, 348, 354, 364
 dog (*Canis lupus familiaris*), 7, 11, 71, 85, 93, 105, 108–110, 112, 118, 120, 127, 186, 257–258, 275–276, 279, 285, 296, 301, 325–327, 333, 356, 358–359, 361, 366–368, 382, 386–387
 dopamine, 45, 63, 135–136, 139, 192
 eavesdropping, 367
 echolocation, 24–25, 32, 47, 67
 ecological rationality, 235, 237, 245–246
 EEG/ERP, 201, 330
 elastic demand, 227
 elephant (African, *Loxodonta africana*), 259, 290, 361, 367
 Emlen funnel, 167–168
 emotion, ix, 5, 9, 28, 60, 69, 76–77, 93, 97, 111–113, 131, 138, 214, 230, 239–240, 242, 244, 247, 276, 289, 304, 307, 310, 312, 314–315, 317, 330, 337, 343, 354, 356–359, 382, 397
 emotional contagion, 315, 357–359, 397
 empathy, 348, 354, 357–359, 364–365
 empathetic perspective-taking, 358
 sympathetic concern, 358
 emulation, 398–399
 entrainment, 186
 equipotentiality, 120
 equivalence, 285, 306, 335
 equivalence classes, 335–336
 equivalence test, 285, 306
 ethology, 4, 14, 16, 18, 26, 29, 59, 254, 294, 370, 373, 380, 383, 389
 four questions of ethology, 16–18, 25, 29
 exaptations, 6
 exemplar, 272, 274–275, 279, 284–286, 295, 299–303, 306–308
 extinction, 7, 108, 127–128, 133, 135–136, 143, 251, 283, 378
 face perception, 313
 fast mapping, 386–387
 feature integration theory, 55
 fish
 guppy (*Poecilia reticulata*), 39–40, 44, 63–64, 204, 393, 403
 salmon (Genus *Oncorhynchus*), 146, 166–167, 171–173, 182, 221
 stickleback (*Pungitius pungitius*, *Gasterosteus aculeatus*), 41, 57, 64, 73, 89–90, 122–123, 220, 222, 285, 392–393
 wrasse (cleaner, *Labroides dimidiatus*), 346
 fission–fusion society, 376
 fitness, 5–7, 14, 17, 21–22, 26, 40, 72, 119, 150, 166, 214, 216–217, 221, 224, 231–232, 240, 245, 297, 306, 340, 345, 379
 inclusive fitness, 340, 345, 379
 fixed action pattern (FAP), 15, 119, 358
 fMRI, 179, 201, 259, 330, 343
 foraging
 extractive foraging, 261, 269
 ideal free distribution model, 220–222, 245
 optimal foraging theory, 216–217, 245
 patches, 218–222, 224, 226, 229, 245, 279, 392–393

- fox (*Vulpes vulpes*), 38, 327
 free operant, 115–116, 143
 free will, 215, 246
 free-running rhythm, 186, 188
 fruit fly (Genus *Drosophila*), 39, 73, 85,
 100, 112, 140–141, 203, 301
- Gage, Phineas, 86, 239–240
 game theory, 222, 341–342
 generalization, 77, 189, 265, 277–279, 287,
 300, 303, 335, 395
 generalization gradient, 189, 277–278,
 307
 genotype, 42, 294, 372
 green-beard gene, 344
- H.M., 88–89, 92–94, 177
 habit learning, 131, 139, 251
 habituation, 89–92, 99–100, 104, 197,
 249–250, 293
 hamster (*Mesocricetus auratus*), 54, 66,
 77–78, 122, 162, 294, 403–404
 handicap principle, 371
 handling, 126, 217, 378
 heuristic, 229–230, 232, 235, 237,
 245–246, 332, 337, 411
 availability heuristic, 232
 hippocampus, 101–103, 158, 175,
 177–180, 182–183
 homing, 166–173, 176–178, 182–183, 223
 natal homing, 166, 168, 171
 hyperthymia, 97
- imitation, ix, 19, 391, 395, 400, 406–408,
 410–411, 413, 415–417, 440
 two-action test, 408–409, 415
 imprinting, 15, 18, 171, 291–292, 307, 356
 impulsivity, 233, 236–238, 245
 indifference point, 233
 inelastic demand, 227
 inequity aversion, 351, 353–354, 364
 innate, 13, 15–16, 18–19, 25, 71, 250, 289,
 311, 313, 383
 instinct, 14
 intelligence, x, 11, 13, 19, 24, 63, 85, 96,
 239
 Iowa Gambling Task (IGT), 239
- just noticeable difference (JND), 52
- kinesis, 147, 152–153, 182
- landmark, 72, 88, 154–155, 157–158,
 160–165, 169, 171–172, 178–179,
 182–183, 190
 language, 6, 8, 19, 26, 43, 67, 70–71, 85,
 89, 164, 199, 201, 209–210, 276,
 281, 285–286, 318, 333, 354,
 366–368, 370, 372, 375, 383–384,
 386–390, 406–407, 413
 language training, 386
 recursion, 368
 sign language, 67, 384, 386, 406
 situational freedom, 370, 375, 389
 latent inhibition, 125, 134, 398
 lateral geniculate nucleus (LGN), 53
 launching event, 249–250, 254
 law of effect, 109, 131
 lemur (Genus *Eulemur*, *Varecia*, *Lemur*),
 201, 204, 206
 limited signal set, 368, 376, 388–389
 linguistics, x, 19, 308, 370, 406
 Linnaeus, 2, 271–272
 Lion (*Panthera leo*), 37, 344, 360
 local enhancement, 395, 403
 long-term potentiation (LTP), 101–102, 141
- macaque, 259
 marginal value theorem, 218, 220, 224,
 230, 245
 matching law, 225–226, 242, 245–246
 meerkat (*Suricata suricatta*), 163, 347,
 349, 378, 414
- memory
 consolidation, 70, 75–80, 89, 104
 declarative memory, 89, 92–95, 98,
 104–105
 encoding, 70, 74–75, 77, 89, 97, 104,
 197–198, 253, 305, 321, 328
 episodic memory, ix, 95–99, 104–105, 276
 false memory, 79
 flashbulb memory, 76, 97
 non-declarative memory, 89, 92–94, 104
 procedural memory, 93–94, 99, 104
 reconsolidation, 79, 81
 reference memory, 70, 88–89, 94,
 104–105, 192–194
 retrieval, 70–71, 74, 77–79, 81–82, 89,
 99, 104
 semantic memory, 95, 104
 spatial memory, 148–150, 158, 165, 177,
 183–184
 working memory, 81–83, 85–88,
 104–105, 192–193
- memory
 reconsolidation, 80
 migration, 147–148, 150–152, 166–172,
 174–175, 182–184, 221, 223, 245
 mimicry, 399
 mirror neurons, 322–323, 405
 mirror self-recognition, 315–316
 mark test, 315–317
- monkey
 baboon (Genus *Papio*), 254, 285,
 287, 302, 309, 334, 345, 353,
 380, 383
 capuchin (Genus *Cebus*), 261–263,
 265–266, 351, 353–354, 361, 391,
 410
 diana (monkey) (*Cercopithecus diana*),
 378
 macaque
 Japanese (*Macaca fuscata*), 391
 long-tailed (*Macaca fascicularis*),
 297
 rhesus (*Macaca mulatta*), 26, 57, 87,
 197–198, 201–202, 204, 206, 208,
 212, 243, 256, 270, 289, 297,
 302–303, 305, 313, 315, 321–322,
 324, 328, 356, 398
 stump-tail (*Macaca arctoides*), 359
 marmoset (*Callithrix jacchus*), 155, 257,
 349, 351
 tamarin (cotton-top, *Saguinus oedipus*),
 201, 257, 266–267, 321, 351
 vervet (*Chlorocebus pygerythrus*), 163,
 334–335, 377–378, 380, 388
- Morgan's canon, 11
- mouse (Genus *Peromyscus*, *Apodemus*),
 30, 77, 81, 110, 113–114, 149, 154,
 163, 165, 293–294, 372
- Nash equilibrium, 221–222
 natal philopatry, 293
 natural selection, 3, 5–6, 8, 14, 19–22,
 29–31, 38–39, 44, 66, 72, 85, 87,
 118, 147, 149, 174, 214–215, 217,
 224, 340, 353, 392, 416
- navigation
 large-scale, 147, 154, 166–167, 169,
 171–173, 175, 182–184, 222
 small-scale, 147, 154, 157–158, 160,
 164–165, 170, 175, 179, 181–183
- neuroeconomics, 28, 240–241, 243, 245,
 247, 343
 neuroethology, 26, 59
 neuron, 26–27, 42–43, 45–46, 48–50, 53,
 55, 57–58, 77, 85–87, 99–101, 135,
 137, 139–141, 175–176, 178–179,
 192, 194, 201, 223–224, 241, 243,
 305, 322–323, 362, 389, 407
 nominal scale, 208
- object physics, 254, 257–258, 269, 411
 object displacement tasks, 255
 object permanence, 255
 object tracking system, 204–205, 211–212
 set size signature, 202–204, 211
 observational conditioning, 395–398
 omission, 110, 229
 operant conditioning, x, 93, 108–109, 111,
 114–115, 117–119, 121, 123,
 126–128, 131, 133–134, 136–137,

- 139, 141–142, 227, 243, 248, 251, 265, 384–386, 392
- operations, 81, 186, 201, 205–208, 210–211
- optic flow, 56
- optimality, 220–221, 224, 230, 232, 245, 247
- ordinal scale, 208, 212
- orientation, 43, 48, 54–55, 147, 152–154, 161, 168, 170–172, 175, 180–183, 258, 313, 375
- oscillators, 193–194
- overmatching, 226
- overshadowing, 126, 134, 144
- pacemaker, 192–194, 200
- path integration, 158–161, 163, 165, 176, 182, 375
- peak procedure, 188–189, 211
- perception, x, 26, 33, 35, 43, 50–52, 54–58, 240, 250, 281, 300, 310–313, 316, 320, 325, 366–367, 388
- perceptual narrowing, 314, 337–338, 406–407
- perceptual priming, 92, 104
- phenotype, 294, 302
- phenotypic matching, 294–295, 302, 306
- phenotypic plasticity, 392
- pheromone, 27, 57, 153, 223, 401
- place cell, 176–178, 183
- place field, 176–177
- play markers, 382, 388
- playback experiment, 378, 380–381, 388
- point-light displays, 310–311
- precursor behaviors, 263, 269
- prefrontal, 87, 243
- prefrontal cortex (PFC), 239
- presynaptic terminal, 45, 139–140
- prosimians, 204
- prosopagnosia, 296, 304, 308
- prototype, 272, 299, 301–303, 306–308
- proximate cause, 17–18, 26, 29, 123, 354, 356
- pseudocategory, 279–280
- psychology
- behaviorism, 11–12, 18–20, 29, 108
 - cognitive psychology, ix, 60, 70, 81, 246, 299, 301, 308
 - developmental psychology, ix, 25–27, 91, 288, 319, 343–344, 357, 387
 - ecological psychology, 56, 67
 - experimental psychology, ix, 11, 18, 158, 235, 294, 333
- psychophysics, 51, 66
- punishment, 110, 122, 342–343, 351, 354, 361, 367
- radial arm maze task, 83–84, 149–150, 177
- random effects, 5–6
- rat (*Rattus norvegicus*), 4, 19, 36, 48, 63, 83–84, 105, 109–110, 114–115, 121, 130, 144, 154, 156, 161, 176, 196, 226, 241, 259, 341, 348, 354, 395, 401–402
- ratio strain, 116
- recognition, 6, 55, 77, 93, 149, 256, 279, 289–297, 299, 302, 304–305, 307, 312, 314, 317, 333, 363, 376, 398
- conspecific recognition, 289–291, 304, 306
- facial recognition, 289, 296, 304
- individual recognition, 295–297, 299, 306, 376
- kin recognition, 291–295, 297, 302, 306–307, 363
- parent–offspring recognition, 291–293
- unfamiliar kin recognition, 292, 294–295
- redirected aggression, 90, 119, 285, 334–335, 356
- reference/referential, 10, 19, 60, 152, 154, 282, 369, 373, 375, 378, 381, 387–389
- functionally referential, ix, 369, 377, 379, 388
- reinforcement, 11–13, 19, 110–111, 115–118, 122, 142–144, 189, 194, 225–226, 228, 234, 241–242, 395
- concurrent schedule of reinforcement, 225, 245
- negative, 110
- positive, 110
- schedule, 116–118, 143, 225–227, 232, 245
- relative numerosity, 196, 199, 208
- releaser, 57
- Rescorla–Wagner model, 134–136, 143–144, 254
- response renewal, 128, 136
- risk, 63, 73, 214, 231–232, 234, 237, 239, 245, 347, 359, 365, 369, 371, 379, 383
- risk sensitivity, 232
- risk taking, 231, 237
- risk taking, 231
- rotational bias, 160–161
- scalar property, 189
- sea lion (California, *Zalophus californianus*), 285
- sea snail (Genus *Aplysia*), 99, 112
- search image, 60–61, 66
- selective, 60, 63, 73, 229, 356
- self-control, 233–234, 236–238, 243
- sensation, 48, 50–51, 53, 55, 66, 74, 111
- sensitive period, 42–43, 66, 151, 282, 404, 416
- sensitivity, 8, 36, 39–40, 43–44, 53, 71, 197, 200, 204–205, 232, 325, 350, 369
- sensitization, 89, 92, 99–100, 104, 139
- sensory bias, 40–41, 66
- sensory drive hypothesis, 39, 66
- sensory exploitation, 40–41, 66
- sensory preconditioning, 129–131, 136
- serotonin (5-HT), 45, 100, 139
- sexually dimorphic, 37
- sheep (Genus *Ovis*), 314, 381
- sign stimulus, 57–58
- signature whistle, 376
- snake (Genus *Scotophilis*, *Mintonius*), 36, 72, 122, 217, 377, 388, 398
- social knowledge, 333–335, 337–338, 380
- sociobiology, 17
- soma, 45
- somatic marker hypothesis, 239–240, 242, 245, 247
- speciation, 7–8, 39, 290
- speech, 33, 57, 281, 372, 383–384, 387, 389, 399, 406–407
- phonemes, 281, 406–407
- spontaneous recovery, 127–128, 136
- squirrel (Genus *Spermophilus*, *Sciurus*), 72, 207, 232, 295
- stimulus enhancement, 395
- stimulus filtering, 57
- strabismus, 42–43
- striatum, 135, 139, 179, 182, 192, 214, 241–243, 245, 405
- dorsal striatum, 139, 243
 - ventral striatum, 241–243, 245
- structuralism, 55
- sunk cost fallacy, 229–230
- supernormal stimuli, 41–42, 66–67
- superstitious behavior, 117–118
- suppression ratio, 113
- sustained, 50, 114
- synapse, 45, 100–101, 103, 140
- taxis, 152–153, 182
- negative taxis, 152–153
 - positive taxis, 152
- temporal discounting, 233–234
- temporal generalization, 189
- theory of mind, x, 309, 317, 319–320, 323, 333, 338, 363, 369
- attribution of beliefs, 330
 - attribution of intention, 322
 - attribution of perception, 324
 - false belief, 117, 319, 329–330, 332, 337, 370
- timing
- information processing model, 71, 192–194, 211

- interval timing, 186, 188–190, 192–194, 200, 211
- periodic timing, 186, 188, 211
- tolerance, 105, 131–132, 261, 263–264, 269, 362–364
 - social tolerance, 263–264, 269
- tool use, 414–415
 - functional fixedness, 260, 270
 - tool manufacture, 262–263
 - trap-tube task, 264–266, 270
- tragedy of the commons, 359
- transduction, 46
- triangulation, 265
- ultimate cause, 16, 18, 26
- ultimatum game, 342, 350–352, 362
- unconditioned response (UR), 109, 398
- unconditioned stimulus (US), 109, 113, 121, 124, 130, 135, 140, 395
- undermatching, 226
- utility, 131, 134, 220, 229, 241–243, 245
- variable interval (VI), 116–117
- variable ratio (VR), 116–117
- vestibular system, 159
- vole (Genus *Microtus*), 149, 177
- waggle dance, 373, 375, 388
- Wallace, 5, 7, 159
- water maze task, 109, 114, 156–157, 163, 165
- whale (humpback, *Megaptera novaeangliae*), 166, 170, 172
- wolf (gray, *Canis lupus*), 7, 326, 356, 360, 366, 382
- zoology, 14, 18, 29, 158, 235, 271
- Zugunruhe, 167–168, 172