Cambridge University Press 978-1-108-47569-3 — Cooperation and Conflict Edited by Walter Wilczynski , Sarah F. Brosnan Index More Information

Index

acacia tree, ant mutualism, 192 African gray parrot. See Psittacus erithacus agent-based modeling, 42, 47, 50, 57 aggression, 1, 26, 91-97, 122, 134, 151, 212 contexts associated with eusociality, 215 coupled with foraging activity, 225 defensive, 216 and developmental constraint, 220 female-female, 175 and group size, 172, 220 intragroup, 218-223 lethal, 151 maternal, 91, 216 outgroup, 94 and reproduction, 221 role in social evolution, 225 Allee effect, 171 allogrooming. See grooming altruism, 10, 46, 66, 68, 137, 187 competitive, 57 ambrosia beetle, 195 anarchy, 7 ant differences in developmental trajectories, 221 eusociality, 67 farming, 195 leaf-cutting, 69 morphological subspecialization, 223 mutualism with aphids, 194 mutualism with lycaenid butterflies, 192 mutualism with plants, 188, 192, 194 selection against cheating, 195 unicolonial, 218, See also insects, super colonies anthropomorphism, 91 anxiety, 147, 152 aphids, 68, 190, 194 Apis mellifera, 214, 216, 219-226 architectonics, 112 arginine vasopressin. See vasopressin arms race. See evolutionary arms race, See security dilemma attachment, 134 attention, 120 autism spectrum disorder, 137, 148

baboon, 191. See Papio cynocephalus bacteriocytes, 68 balance of power, 7 balanced polymorphism. See evolution, balanced polymorphism Begin, Menachem, 15 biological market theory, 57, 185, 189-194, 199 environmental impacts, 203 black-backed jackal. See Canis mesomelas Bombus terrestris, 214, 220-221 bonobo. See Pan paniscus Botryllus schlosseri, 72 breeding conflict, 174 Buchnera, 68 Buphagus erythrorhynchus, 197 bumblebee. See Bombus terrestris bystander interventions. See policing Caenorhabditis elegans, 74 California mouse. See Peromyscus californicus Callicebus cupreus, 94 Callithrix jacchus, 94, 115, 144 Canis mesomelas, 171 capuchin monkey. See Sapajus [Cebus] apella Carter, Jimmy, 15 cellular aggregation, 71 cellular fusion, 72 Ceratina calcarata, 220 challenge hypothesis, 222 cheater, 49, 66, 69, 74, 177, 195 cheating, 68-72, 186, 193 selected against, 195 by shirking, 194, 204 and society, 72 Cheilinus undulatus, 204 chimerism, 70-72 and kin recognition, 73 chimpanzee. See Pan troglodytes chromosomal inversion, 77 cichlid fish, 193 civil war. See war, intrastate cleaner fish. See Labroides dimidiatus cleaning gobies. See Elacatinus coalitions, 193

Cambridge University Press 978-1-108-47569-3 — Cooperation and Conflict Edited by Walter Wilczynski , Sarah F. Brosnan Index More Information

Index

235

coercion, 73, 218 cognition, 1, 26 affective, 119 comparative, 201 fish, 201-202 semantic, 119 co-inheritance. See evolution, co-inheritance Cold War, 14 collective action problem, 171, See also social dilemmas collective behavior, 26, 217 colonial power, 13 Columba livia, 202 commensalism, 185, 190 commitment device, 17 communication, 66, 94, 104, 134 alarm pheromone, 217 avoiding misunderstanding, 11 chemical, 217 coordination signal, 26 costly signal, 17 honest signaling, 217, 219 honeybee dance, 214 and neuropeptides, 134 referential, 204 scent marking, 96 social cues (gaze and pointing), 148 comparative approach, 3, 136, 161 comparative neuroanatomy, 108-113, 150 comparative neuroscience, 106 compensatory trait loss, 192 conceptual knowledge, 117 conceptual processing, 108 configural face processing, 115 conflict, 4, 134, 212 contexts associated with eusociality, 215 cryptic, 74 definition, 186 and group dynamics, 178 and group size, 172 human, 3 importance of, 179 intergroup, 1, 170, 175-179, 217 intergroup vs. intragroup, 4 and international relations, 9 interspecies, 216 intragroup, 66, 169, 174, 218-221 and intragroup cooperation, 172 intra-organismal, 71 among kin, 168 lethal, 176 management, 12 post-conflict costs, 176 social, 74 and society, 4 types of, 169 conflict of interest, 45, 185, 203

conflict resolution. See reconciliation conflict speciation. See evolution, conflict speciation constraint 218 cooperation assortment, 68 by-product benefit, 186 and cognition, 4, 199 and common knowledge, 58 competition over partners, 57 cooperation-conflict balance, 1, 3, 66, 80, 92, 153, 163, 167, 179, 218, 226 costly, 45 definition, 186 effect of context, 54 effect of group size, 168, 171, 191 evolution of, 2 evolved vs. ontogenetic roles, 188 genetic basis, 80 and global conflict, 11 and hierarchy, 9 human, 3, 26, 45, 104, 122, 190, 203 importance of mutualisms, 185 ingroup favoritism, 57 through institutionalization, 12 international. 7 interspecific. See mutualism interspecific vs. intraspecific, 67, 188-190, 194 intragroup, 172, 218 intra-organismal, 71 intraspecific, 187, 203 large scale, 26 measuring costs and benefits, 179 moderation by conflict, 180 mutual 46 and negativity bias, 57 problem of, 66 prosocial preferences, 28 and punishment, 26-28 and relatedness, 67 and reputation, 48, 53-59 and reputation management, 202 sanctions vs. reputation, 55 and selfish behavior, 68-72 shared economic interests, 7 and society, 1 and trust, 46 cooperation dilemma. See social dilemma cooperative breeding, 4, 163, 171-174, 193 conflict, 167, 179 cooperative brood care, 213, See also cooperative breeding cooperative hunting, 204 coordination, 7, 66 coral bleaching, 202 cortisol, 198 cost/benefit analysis, 11, 27

Cambridge University Press 978-1-108-47569-3 — Cooperation and Conflict Edited by Walter Wilczynski , Sarah F. Brosnan Index More Information

Index

236

cost	ly behavior, 45, 51
cost	ly signaling, 57
cour	nter-adaptation, 74
cour	nter-adaptations. See evolution, counter-
	adaptations
criti	cal group size effect, 171–174
cros	s-cultural effects, 3, 9, 59
cyto	plasmic male sterility, 70, 73, 78
dam	selfish, 192
Dar	win, Charles, 9, 66
Daw	vkins, Richard, 76
de F	Klerk, F. W., 15
	Waal, Frans, 15
dece	eption, 118, 122, See also tactical deception
deci	sion-making, 120
m	noral and ethical judgments, 114
	references, 27
	rategic, 122
	ection, 66, 186, 197, See cheating
	ector. See cheater
	ocracy, 8, 11
	ocratic peace, 8
	elopment, 146
	rood manipulation, 220
	evelopmental constraint, 220
	ace recognition, 116
	uman, 52
h	uman reputation management, 54
	rurus adsimilis, 196
	tyostelium discoideum, 71, 74
	ersal, 171
	sion of labor, 213, 224
	bhin. See Tursiops truncatus
-	ninance, 139, 151, 170, 193, 226
	nd dispersal, 172
	isplays, 96
	emale dominance, 151
	ierarchy, 96, 193, 214, 218
	amine, 97
	vnstream reciprocity. See reciprocity, indirect
	e gene. <i>See</i> gene, drive gene
	ngo. See Dicrurus adsimilis
	sophila, 70, 79, 224
	sophila pseudoobscura, 75
	nomic games, 45
	y-product benefits game, 191
	pordination games, 26
	ictator game, 46
	onation game, 49, 52
p	risoner's dilemma game, 7, 55, 96, 191, 193, 195, 200
p	ublic goods game, 29, 53, 55
	nowdrift game, 191
	motopics used in 15

ultimatum game, 47 veto game, 46, 193, 199 ectoparasites, 197 El Niño, 202 Elacatinus, 197 emergent phenomena, 26 emotion, 1 fear, 121 role in decision-making, 19 emotional processing, 106, 114, 120 empathy, 1, 89, 114, 137 endosymbionts, 68, 73 Enlightenment, 8 environment, effects on behavior, 9, 202, 213, 217, 222 epigenetics, 96 Europe, 11 European Union, 8 eusociality, 1, 67, 69, 212-221, See also insects, See also reproductive division of labor eviction. See dispersal evolution, 2 balanced polymorphism, 78 co-inheritance, 68 conflict speciation, 75 convergence, 161 counter-adaptation, 74 domain generality, 19 domain specificity, 19, 114 gene-culture coevolution, 26, 42 human, 2, 20, 24, 108-113, 122, 161 major transitions, 67, 185, 194, 212 mathematical modeling, 27 misuses, 10 natural selection, 3, 66 proximate mechanisms, 1, 28 purifying selection, 78 segregation distorter, 70, 78 segregation distorter, cryptic, 75 selective pressure, 161 selective processes for cooperation, 2 selective sweep, 78 sexual selection, 3 social evolution theory, 43, 66 species divergence, 78 ultimate mechanisms, 1 uniparental inheritance, 73 vertical transmission, 68 with bottlenecks, 73 evolutionarily stable strategy, 30, 47, 168 evolutionary arms race, 74, 79 face pareidolia, 115 face perception, 108, 113-116, See also face pareidolia, See also prosopagnosia fairness, 47, 72, See also justice distributive, 53

strategies used in, 45

trust game, 51-52, 55

Cambridge University Press 978-1-108-47569-3 — Cooperation and Conflict Edited by Walter Wilczynski , Sarah F. Brosnan Index More Information

Index

237

false belief tasks. See theory of mind, false belief tasks farming, 195 fig wasp, 192 fire ant. See Solenopsis invicta forgiveness, 16-24 free rider, 45, 49, 54, 171, 177 friendship, 191 game theory, 17, 185, See also economic games gene culture coevolution. See evolution, geneculture coevolution generalized rule learning, 201 generosity, 52 genes, 67 associated with aggression, 224 cryptic selfish gene, 74 drive gene, 75 Gp-9, 76 greenbeard gene, 76 pha-1, 74 polymorphisms, 135 selfish gene, 69-70, 78 and social behavior, 135 supergene, 77 genomics, 4, 76, 135, 224 gibbon, 113 globalization, 14 goal disengagement, 41 gonadotropin, 221 gorilla. See Gorilla gorilla, See Gorilla beringeri beringei Gorilla beringei beringei, 177 Gorilla gorilla, 113 gossip. See language, gossip grooming, 145, 193 group living, benefits of, 193 group size and cooperation, 178 and habitat, 178 group size paradox, 171 grouper. See Pessuliferus guilt, 27, 42 Gymnothorax javanicus, 204 habituation, 168 Haldane, J. B. S., 66 Hamilton, William, 67 haplodiploidy, 69, See also insects, haplodiploidy helpers at the nest, 168, 193, 219, See also cooperative breeding concessions model, 177 direct vs. indirect benefits of, 172 helping behavior, 186, 222 and critical group size, 171

Heterocephalus glaber, 67

hitchhiking traits, 42 Homo sapiens, 1, 7-24, 94, 107-122 honest signaling. See communication, honest signaling honey ant. See Myrmecocystus mimicus honeybee. See Apis mellifera honeyguide. See Indicator indicator human nature biological underpinnings, 24 scientific perspective, 8-11 human rights, 7 failures, 12 human uniqueness, 106 humanities, 1 humans. See Homo sapiens hymenoptera, 216 image scoring. See reputation imitation, 118 immigration and group size, 172 inclusive fitness, 67, 91, 187, 219, See also kin selection Indicator indicator, 204 indirect reciprocity. See reciprocity, indirect individual differences in behavior, 134 individual recognition, 106, 201 infanticide, 176 insects, 4, 212 brood care, 222 castes, 213 division of labor. See division of labor eusociality, 218, See also eusociality genetics of castes, 76 haplodiploidy, 67 monogyny vs. polygyny, 76, 218 morphological specialization, 223 nest defense, 217, 223 nest robbing, 217 ovarian activation, 221, 224 ovarian suppression, 219 queen, 67, 76, 213 super colonies, 76, 218 worker castes, 223 interdependence, 190, 203, 212 economic, 11 interdisciplinary. See multidisciplinary international relations political constructivism, 8, 10 political liberalism, 7 political realism, 7 scientific approach, 9 interspecies mutualism. See mutualism joint attention. See theory of mind justice, 20, See also fairness retributive, 22

juvenile hormone, 221–223

238

Cambridge University Press 978-1-108-47569-3 — Cooperation and Conflict Edited by Walter Wilczynski , Sarah F. Brosnan Index More Information

Index

Kant, Immanuel, 8 moray eels. See Gymnothorax javanicus kidnapping, 177 mother-infant bond, 95 kin recognition, 73, 188 motivation, intrinsic vs. extrinsic, 27 kin selection, 45, 168, 187, 203 mountain gorillas. See Gorilla beringei beringei mouse. See Mus musculus, See Peromyscus Labroides dimidiatus, 52, 185, 196-203 californicus language, 48, 104, 110, 118-120, See also multidisciplinary, 1 communication multisensory processing, 114 ape language, 118 Mus musculus, 224 music, 119 chunking, 202 comprehension, 119 mutualism, 4, 67, 162, 185-201, 203 gossip, 48-49, 53-56 ant-flowering plant mutualism, 194 without brains, 185 reading, 119 and cognition, 203 semantic processing, 108 laterality, 112 evidence for, 187 and face processing, 115 evolutionary origin of, 194 legumes, 67 between human and wild animal, 204 loner strategy, 69 marine cleaning mutualism, 189, 194, 196-201 long-tailed macaque. See Macaca fascicularis mixed-species associations, 189 partner choice, 204 lycaenid butterfly, 192, 196 Lycaon pictus, 171 partner fidelity, 68 partner interdependence, 190 plant pollinator mutualism, 192 Macaca fascicularis, 113 Macaca mulatta, 106, 109-116, 147, 152 trading services, 188 Macaca nemestrina, 73 mycorrhizal fungi, 189, 192 Macaca spp. Myrmecocystus mimicus, 217 amygdala, 121 Myxococcus xanthus, 74 theory of mind, 118 naked mole rat. See Heterocephalus glaber major transitions in evolution. See evolution, major transitions Napoleon wrasse. See Cheilinus undulatus Mandela, Nelson, 15 Nash equilibria, 26 marmoset. See Callithrix jacchus Native Americans, 15 NATO, 12 mate guarding, 91 natural selection. See evolution, natural selection maternal care, 213, See also parental care meadow vole. See Microtus pennsylvanicus negativity bias, 56-57 nematode. See Caenorhabditis elegans meerkat. See Suricata suricatta meiosis, 69 nest defense, 216 meiotic drive, 69 neuroanatomy amygdala, 92, 120-122 Melipona, 69 memory, 92, 120, 201 and behavioral output, 92 autobiographical, 112 cerebral cortex, 104 Mesocricetus auratus, 96 default mode network, 117 Microtus montanus. 95 human temporal lobe distinctiveness, 107 Microtus ochrogaster, 93, 95, 161 interconnectivity, 92 mirror self-recognition. See theory of mind, mirror mesolimbic dopamine system, 95, 97 self-recognition neuropil distribution, 112 mitochondria, 67, 194-195 primate temporal lobe, 108 selfish variant, 78 social behavior neural network, 92 mobbing, 169 social salience network, 93 model species, 121, 161, 227 temporal lobe, 4, 107-113, 119 preclinical model species, 90 temporal lobe and social concepts, 117 modularity. See evolution, domain specificity temporal lobe architectonic asymmetry, molecular biology, 1 112 monogamy, 95, 137, 161 terminology and definitions, 105 neuropeptides. See oxytocin and vasopressin queen monogamy, 67 monogyny. See insects, monogyny vs. polygyny neuroscience, 1 montane vole. See Microtus montanus affective, 20

Cambridge University Press 978-1-108-47569-3 — Cooperation and Conflict Edited by Walter Wilczynski , Sarah F. Brosnan Index More Information

pathology, 145

norms, 3, 7, 26-40 evolution of, 42 internalization of, 28, 40 internalized, 27 international 11 violation of, 54 octopus. See Octopus cyanea Octopus cyanea, 204 oophagy, 174, 179 intragroup, 177 optimality theory, 195 orangutan. See Pongo pygmaeus organismal fusion, 73 other-regarding behavior. See prosocial behavior oxidative phosphorylation, 225 oxpecker, 197. See Buphagus erythrorhynchus oxytocin, 4, 93 effects on behaviour and cognition, 134 and food sharing, 95 and New World primates, 136 phylogenetic variation, 136 and prior experience, 96 and social bonds, 95 and social reward, 97 and the social behavior neural network, 94 pair bonding, 91, 94-95, 137, 161 Pan paniscus amygdala, 121 AVPR1A gene polymorphism, 144 symbolic representation, 118 Pan species comparison, 121, 150 Pan troglodytes, 15, 52, 95, 107-122, 137-153, 202 amvgdala, 121 AVPR1A gene polymorphism, 139-144 AVPR1A receptor polymorphism, 137 joint attention, 148-150 oxytocin receptor single nucleotide polymorphism, 142 personality, 137-139 personality pathology, 146 symbolic representation, 118 paper wasp. See Polistes dominulus, See Polistes Papio cynocephalus, 191 parasitism, 185, 190, 196, 203 parental care, 92, 189, 222, See also maternal care

and rearing history, 146 perspective taking. See theory of mind Pessuliferus, 204 phenotypic plasticity, 217 Phoeniculus purpureus, 177 pied babbler. See Turdoides bicolor pigeon. See Columba livia pig-tailed macaque. See Macaca nemestrina play, 97, 145 pleiotropy, 225 poison-antidote system, 70, 75, 196 policing, 66, 73, 218 Polistes, 214, 220-221, 224 Polistes bellicosus, 216 Polistes dominulus, 219 Polistes exclamans, 216 Polistes fuscatus, 220 Polistes metricus, 217 political science, 2 polyethism, age or temporal, 213, 223 polygyny. See See insects, monogyny vs. polygyny Pongo pygmaeus, 113, 202 prairie voles. See Microtus ochrogaster predation, 185 predator defense, 216 prosocial behavior, 1, 41, 51, 89-92, 134, 151, 162 definitions, 89 and neuropeptides, 90 prosocial preferences, 28 prosopagnosia, 114, See also face perception proximate mechanisms. See evolution, proximate mechanisms Pseudomonas, 74 Pseudomonas aeruginosa, 77 Pseudomonas fluorescens, 72 pseudoreciprocity, 191 Psittacus erithacus, 202 psychology, 2 evolutionary, 17, 20 social, 89 psychopathy. See personality, pathology public good, 27, 77 punishment, 4, 20, 26-40, 47-48, 54-56, 73, 177, 200 costly, 27 external, 35, 54 external vs. internal, 28 internal, 32, 37 purifying selection. See evolution, purifying selection pyoverdine, 77 rat. See Rattus norvegicus rational choice, 17

parthenogenesis, 69 partner choice, 192, 199

personality, 54

boldness, 217

partner control, 186, 195, 199

AVPR1A genotype, 151

partner switching, costs of, 203

Peromyscus californicus, 94, 161

nonhuman primate, 137-139

AVPR1A polymorphism, 134-139

Cambridge University Press 978-1-108-47569-3 — Cooperation and Conflict Edited by Walter Wilczynski , Sarah F. Brosnan Index More Information

240

Index

Rattus norvegicus, 96-97, 202 reciprocal altruism. See reciprocity, reciprocal altruism reciprocity, 9, 191 bounded generalized, 57 direct, 47 human day-to-day interactions, 52 indirect, 47, 52-53 reciprocal altruism, 68 reconciliation, 15-24, 198 internally motivated, 23 process of, 20 role of costly signals, 18 truth and reconciliation effort, 23 relatedness, effects of, 28, 42, 72, 174-175, 177, 188 reliable signaling. See communication, honest signaling reproductive division of labor, 67, 71, See also eusociality reproductive skew, 174 reproductive success and group size, 172 impact of territorial conflict, 176 reputation, 3, 48-59, 200 assessment errors, 50 assessment strategies, 49 biased 56 formation, 48 and group size, 57 image scoring, 49 importance of the outgroup, 58 influence of others' expectations, 27 management, 53 shunning, 50 and social networks, 51 standing strategy, 50 stern judging, 50 resource competition, 96 revenge, 20 rhesus macaque. See Macaca mulatta rhizobia, 67, 73, 185, 189 ritualized aggression, 217-219 ritualized displays, 218 Ropalidia marginata, 221 Sacks, Oliver, 114 Sadat, Anwar, 15 Saimiri spp., 96 Sapajus [Cebus] apella, 202 scent marking. See communication, scent marking security dilemma, 13 segregation distorter. See evolution, segregation distorter

selective sweep. See evolution, selective sweep

self-control, 201 self-interest, 10 and society, 1 selfish gene. See genes, selfish gene sensory processing, 108 sequential hermaphrodite, 200 Sewell, Samuel, 15 sex change. See sequential hermaphrodite sex difference, 97, 139-144, 200 anxiety, 147 joint attention, 150 personality pathology, 146 social behavior, 153 sexual reproduction, 189, 193 sexual selection. See evolution, sexual selection Silene acaulis, 79 Silene vulgaris, 78 single nucleotide polymorphisms, 137 small-scale societies, 47 social behavior and AVPR1A genotype, 151 context dependence, 134 genetic basis of, 76 manipulation, 145, 162 social bonding, 1, 94 social cognition, 104, 114, 117, 120, 134 and AVPR1A genotype, 151 cognitively simple strategies, 162 social concepts, 119 social context, impact on behavior, 92 social contract, 9 social dilemma, 26, 45, 55 social evolution theory. See evolution, social evolution theory social exclusion, 57 social interactions, reward value, 97 social knowledge, 106, 114 social media, 58 social networks, 58 social neuroscience, 114 social norms. See norms social preferences, 40 social sciences, 1 social structure, 212 social tool, 201 socialization, 27 Solenopsis invicta, 76 species divergence. See evolution, species divergence speech, 110 comprehension, 113 spite, 69 squirrel monkey. See Saimiri spp. stress, 198 supply and demand, 192 Suricata suricatta, 187

Cambridge University Press 978-1-108-47569-3 — Cooperation and Conflict Edited by Walter Wilczynski , Sarah F. Brosnan Index More Information

More Information

Index

241

symbiosis, 190, 195 Syria, 12 Syrian hamster. See Mesocricetus auratus tactical deception, 200 and reputation management, 202 termites, 67, 195, 218 territorial defense, 169, 177 territoriality, 91, 151 testosterone, 222 t-haplotype, 69 The Selfish Gene, 76 theory of mind, 106, 116-118 false belief tasks, 118 joint attention, 148-150 mirror self-recognition, 118, 146, 201 thermoregulation, 214 titi monkeys. See Callicebus cupreus tool manufacture, 151 tournaments. See ritualized displays toxin-antidote system. See poison-antidote system tragedy of the commons, 66, See also public good transcriptomics, 76, 226 translational research, 153 transposable elements, 70 Trivers, Robert, 68 tunicate. See Boytryllus schlosseri Turdoides bicolor, 168-171 Tursiops truncatus, 204

uniparental inheritance. *See* evolution, uniparental inheritance United Nations, 7 values, existential, 13 vasopressin, 4, 93, 222 effects on behavior and cognition, 134 interaction with anxiety, 96 and pair bonds, 95 and prior experience, 96 receptor polymorphism, 4, 95, 136-137 and sex difference, 97 and social bonds, 95 and the social behavior neural network, 94 vertical transmission. See evolution, vertical transmission visual processing, 107 war interstate, 11, See also conflict, intergroup intrastate (civil), 12-15, See also conflict, intragroup intrastate, causes, 14 intrastate, cultural and ethnic conflicts, 13 intrastate, effect of decolonization, 14 intrastate, internationalization of, 12 intrastate, problems resulting from, 12 intrastate, role of identity, 14 shadow of, 7 world wars, 11 wasp. See Polistes wild dog. See Lycaon pictus Wolbachia, 196 wood hoopoe. See Phoeniculus purpureus

Zootermopsis nevadensis, 218