adaptations. See also cheater detection module; PD solution module behavioral, xii, 95n, 97, 202, 204, 215, 244, 315 cognitive, xii, 21, 281 cultural, 18, 235, 300 design, 138, 299 emotions as, 245 institutional, 40	toward non-kin, x, 21, 33, 49, 93, 114–17, 153, 192, 204, 231, 302, 334 in war, 95n animal behavior, 79, 79n. 52, 211, 228. See also bonobos; chimpanzees; social insects birds, 21, 125, 307n, 334 crocodiles, 21
for social exchange, 260–62 Alchian, Armen, 4–5, 8–10, 21, 30,	dogs, 79–80 gorillas, 228
39n. 9, 53, 62, 74n. 46, 110, 121,	infanticide, 212, 214n
142, 146, 249, 250	lions, 79, 79n. 52, 211, 218, 232
altruism	mammals, 21
adherence to norms as, 194	orangutans, 228
as affirmative acts of assistance, 22,	relevance to study of humans,
129, 216, 231, 234, 243, 260,	209–10
302	reptiles, 247
biological definition of, ix, 8, 10, 21,	rhesus monkeys, 219
24, 93, 130, 152	stump-tailed macaques, 219
cooperation as, 190	worms, 151
costs of assuming excessive, 75	anthropology, xii, 11, 16, 16n, 17, 18,
in dictator games, 38	40, 42, 56, 57, 75, 91, 97, 133, 134,
as failure to harm, ix, 21–24, 29, 126,	306, 319, 320, 321, 335
213, 234, 243, 260	appeal of rational choice approach
and frequency dependence, xi	in, 161
nebulous definition of in social sci-	cultural, 45, 138
ences, ix	nonracist, 210
not necessarily morally praisewor-	Aristotle, 137n. 9
thy, 80	on accidental and essential features,
origin of term, 304n. 7	235
retaliation as, 190, 257	on anger, 202
theory of reciprocal (see reciprocal altruism)	on essential human predispositions, 33n. 2, 45
toward kin, x, 21, 93–94, 112–14,	on humans as essentially social, 110,
153, 334	112

http://www.press.umich.edu/titleDetailDesc.do?id=17253

ogy, molecular; DNA

The University of Michigan Press

360 Index

biology, evolutionary, 29, 97, 122, 130, Aristotle (*continued*) 192, 314 on natural vs. customary social relations, 132 relation to social sciences, 303 on nature and nurture, 25 biology, molecular, 16, 26, 209, 225–29, 306 on political structure, 25n. 23 blind watchmaker, 304 on slavery, 132 Australopithecus afarensis, 217–19, 229 Boas, Franz, 56, 317 bonobos, 129n, 209, 219, 221, 229, 230, averaging fallacy, 119 Axelrod, Robert, xv, 26, 45, 49, 51, 232 122, 142–50, 154, 193, 207, 261 consciousness in, 245 morphologically similar to humans, Bacon, Francis, 14 210 base rates, 198 numbers in wild, 230 neglect of, 272-80 ventro-ventral copulation, 229 overemphasis on, 279 Brozen, Yale, 176 Bayesian statistical inference. See also Bueno de Mesquita, Bruce, 297 base rates Bayesian learning, xiii categorical imperative, 1, 23, 91, 137n. Bayes theorem, 65, 264-65, 264n, 271-75 applies to in-group, 92 centipede game, 29, 38, 53, 72 using frequencies, 64, 284 Becker, Gary, 7n, 106, 320n, 324 Chamberlain, Neville, 170, 180 behavioral science, 10-17, 26-27, 92, Chammah, Albert, 45, 146–47, 172, 221, 294, 306, 325, 329. See also 182n, 271 economics; psychology cheater detection module, 27, 57, 59, relevance of neurobiology and neu-220, 256–60, 270 chicken, game of, 168-69 roanatomy, 249 Belsky, Gary, 286–89 chimpanzees, 77, 77n. 49, 129n, 209, Binmore, Kenneth, 25, 49, 50, 135 219, 221, 229, 232, 245, 253 assumption of indefinitely repeated Chomsky, Noam, 18-19, 58, 65n. 35, interaction, 30, 47, 50, 123, 213 236, 242, 254, 254n Churchland, Patricia, 249 on behavior in one-shot games, 39n. 9, 48, 53, 249 civilization, 133 explanation of restraint on on evolutionarily stable strategies, 140 intraspecific violence, 71, 82–83, on "folk theorem," 147 130, 133, 214-20 on human statistical capabilities, 63, Civil War, English, 1 Civil War, U.S., 179 reciprocal altruism explains how Clausewitz, Carl von, 181 cooperation sustained, 123 Coase, Ronald, 11, 11n, 13, 43, 43n. "true altruism" limited to that dis-12, 292, 322 played toward kin, 123n cognition, animal, 63n, 64, 234 understanding of rationality, 250 cognition, human, 6, 25-27, 54-66, biochemistry, 226, 247. See also biol-90-91, 222

assumptions about, 9

belief formation, 42n, 263, 296	political, 18, 25, 29, 34, 60, 75, 77,
beliefs, rational, 6, 54, 62	88, 216, 235, 306
biological influences on, xii, 45, 255	universal features of, 18, 20, 33, 40–41, 235, 331
(see also modularity, cognitive) domain general, 26, 55, 221, 223	variability in, 18, 38, 41, 135–36,
framing, 27, 264, 277	235, 301, 306, 335
functionally specialized, 26, 58, 65,	cynicism, 75, 80, 91
191, 224, 249, 269, 315	cymeisin, 73, 66, 71
infant, 26, 238–42	Damasio, Antonio, 233–34, 246, 249,
language acquisition, 26, 65, 221,	250–54
223, 235–38, 253, 262, 284,	Dart, Raymond, 217
301	Darwin, Charles
learning, 64, 65n. 35, 66, 80, 138,	influence of evolutionary processes
197, 239, 242–43, 265, 273, 301,	on culture, 20
306	obstacle for social sciences to over-
visual perception, 19-20, 58, 65, 239,	come, xi
262, 285, 301	on our descent from animals, 210
Cold War, 88, 89, 180–81, 190, 217	recognizes possibility of group selec-
common ancestor, 210, 229, 235	tion, 46, 95, 108, 162, 192
cooperation	support for methodological individ-
how sustained, 30–32	ualism, 45
not necessarily altruistic, 68	support for selection only at individ-
product of culture, 133	ual level, 93, 326
Cosmides, Leda, 25n. 22, 27, 57–61,	support for standard economic
59n. 27, 62n, 63, 126, 220–25, 252,	model, 224, 294
253, 257–60, 267, 282–83, 298,	Darwinian medicine, 100
300, 317, 324	Dawes, Robyn, 35, 45, 74n. 46, 101,
designs, not organisms, selected for,	163, 198, 253, 280, 289, 292, 295
156	Dawkins, Richard, 97
views on levels of selection, 66 creationism, 107, 108	on de Waal, 230 on group selection, 107–8
Crick, Francis, 235, 322, 333	interpretation of ESS, 115n. 19
crimes, 76	deBondt, Werner, 288
genocide, 29, 78, 79	decision theory, 27, 181, 263–94, 299.
murder, 23, 60, 72n, 75, 118, 164,	See also Bayesian statistical infer-
217, 220, 221, 229	ence; heuristics and biases
robbery, 23, 72, 76	as games against nature, 62
culture, xii, 17, 19, 20, 40, 42, 301	loss function, 75
biological influences on, 20, 45, 301,	relevance for interactions with
306, 318, 335	humans, 64, 167, 177, 189, 197
commercial, 84	treatment of base rate data, 199
as explanation of control of violence	democratic peace, 29, 85–89
among humans, 214–15, 217,	desires, 6, 223
248	greed, ix, 68, 181, 248
nonbiological view of, 71	hunger satisfaction, 55, 222

http://www.press.umich.edu/titleDetailDesc.do?id=17253

The University of Michigan Press

362 Index

quest for comprehensive social scidesires (continued) ence, 320 self-protection, ix, 222 sexual access, 55, 222 relation to behaviorist psychology, 57n. 58, 223 thirst satisfaction, 55 role of culture in, 223 wealth enhancement, ix deterrence, 89, 163, 167, 181 economic theory, 10 effectiveness of, 180-82 axiomatic, 12–13, 17, 71, 297, 323, as irrational strategy, 89n, 163, 172n, 173–77, 179, 194, 200, 270 benefit-cost calculation, 76 de Waal, Franz, 23, 98, 209, 217, 219, choice, means-end, 6, 57 double coincidence of wants, 234 220, 230, 233 Diamond, Jared, 21n, 237, 317 expected utility, 265, 329 dictator game, 7n, 26, 29, 38, 73, 187n. factor endowments, 42, 44 13, 296 human capital, 41 institutions, 44 (see also institutional diMaggio, Paul, 133 diplomacy as cheap talk, 86 variation) Dixit, Avinash, xiii, 141–42, 171n. 5 macroeconomics, 147n, 233n, 305n, DNA, 210, 225 310 differences among apes and humans, maximization, constrained, xiv, 57, 228-29 150, 160, 185, 307, 323, 327, 332, 333, 334 mitochondrial, 225, 229 Doomsday machine, 171, 171n. 6, 180, microeconomics, 29, 42, 76, 310 184-85 microeconomic theory, limits of, emotions as, 190–92, 204, 205 71 - 76motives, 151 doux commerce thesis, 81, 84 Downs, Anthony, 207n Pareto efficiency, 3, 34, 86, 130, 166, Dr. Strangelove (Stanley Kubrick and 180, 214 Pareto inefficiency, 180 Terry Southern), 171, 176, 204 Dresher, Melvin, 1, 2, 4-5, 8-9, 34, 48 Pareto inferiority, 3, 9 Pareto superiority, 2n. 3 path dependency, 44, 135 econometrics preferences, 6, 7, 56, 58–59, 264, 266 autocorrelation, 267 time series methods, 282 producer cartels, 73, 176, 177, 313, economic development, 42 319 economic history, 40, 42, 43n. 13, 306, tautological, 6, 7, 33 technologies, 40, 42, 43n. 13. 44 329 economics, 16, 17, 50, 56, 156 transactions costs, 43 behavioral, 27, 27n. 26, 59, 65 utility functions, xv, 312 efforts to account for nondefection, heterodox, 208n, 321, 323, 325 109, 124 Eddington, Arthur, 319 financial, 27, 268, 282, 288-89, Edgerton, Robert, 18, 20, 25n. 23, 137, 308-10 243 as foraging, xiii, 71, 307, 310 Edwards, Ward, 279 impact of possibility of group selec-Ekman, Paul, 18–19, 58, 235 tion on, 111 Elster, Jon, 7, 72n, 291–94

emotions relation to game theory in economics, 150-52 anger, 18, 23, 199–202, 245, 253, 261 evolutionary history, 13, 15, 16, and cognition, 249 empathy, 76n, 153 228–29, 306 envy, 39n. 8, 73 evolutionary psychology, 25n. 22, 156, fear, 18, 223, 248, 253 282. See also cheater detection neurobiological foundations of, module impact of possibility of group selec-245 guilt, 76n, 245 tion on, 111 happiness, 18 evolutionary theory, 13, 15–17, 32, jealousy, 73 46-47 love, 76n, 111, 203, 247n, 303 assortative mating, 202, 205 differential extinction, 96 malice, 73 neuroanatomical localization of, 246 dispersion, 96 phobias, 299 dynamic distinguished from static, physiological manifestations of, 202, fixation, 25, 25n. 22, 96, 137, 235 and rationality, 249 frequency dependent selection, x, 21, remorse, 76n 22, 25n. 22, 32, 49, 52–53, 93, shame, 245 97–98, 102, 112–13, 122, 126, strategic role of, 160-61, 185 130, 133, 140, 142, 156, 178, sympathy, 245, 304n. 7 186–87, 195 environment. See human behavior, genetic drift, 107n environmental influences on genetic recombination, x, 99n inclusive fitness, x, 94–96, 192 environment of evolutionary adaptivekin selection, x, 94, 95, 109n. 15, ness, 65n. 34 ethics, 17, 91, 295n. See also categori-112, 140, 150, 178, 192, 212, cal imperative 220, 334 duty to avoid harming others, 24 as instance of group selection, nonconsequentialist, 69, 190, 297 94n. 1, 112, 119 utilitarian, 190, 297, 297n levels of selection, xii–xiii, 8, 45–47 ethnocentrism, 77n. 50, 87-88, 216 mutation, x, 99 ethogram, human, 68, 68n, 77n. 49, outcrossing, 99, 99n 220, 222, 230, 261 polymorphism, 25, 235 ethology, 16, 77n. 49, 96, 97, 209, replicator dynamic, 50n, 113-14, 209n, 306 122, 140, 142, 165, 213 evolutionarily stable strategy, 110n. 15, selection 114, 122, 140–42, 146, 186 at level of gene, 46, 49, 94, 97, as equilibrium refinement, 140n 107, 152 static concept, 141, 141n. 14 at level of group, x, 16, 21, 35, evolutionary game theory, 26, 47, 46-47, 94, 245, 256 139-42, 151. See also evolutionarat level of individual organism, x, ily stable strategy 24, 45, 74, 94, 152, 202, 245, assumption of large population repeatedly interacting, 50 multilevel, 29, 46, 93–119

http://www.press.umich.edu/titleDetailDesc.do?id=17253

The University of Michigan Press

364 Index

exogamy, 46, 139, 300n selection at individual level alone, 159, 193 expectations adaptive, 147 Frank, Steven, 104, 193 rational, xiii, 69, 147n, 233, 233n, Freud, Sigmund, 70n, 81, 214, 220, 248, 300n 265, 325 Friedman, Milton experimental evidence, xiv, 4, 8–9, 12, on method in economics, 11-13, 16, 15, 20, 24n, 29, 32–40, 98, 222, 263, 298, 328, 335 absence of need for, 12, 14 on monetary determinants of at variance with theory predictions, inflation, 305n on predicting changes, not levels, 33, 39, 153-54, 262, 305, 311 extinction of human race, 82, 170, 217 74n. 47 permanent income hypothesis, 287 Friesen, Wallace, 18-19, 58, 235 fairness, 84, 200, 202, 270n, 324 fundamental attribution error, 90, 144, in ultimatum games, 184–85 Falkland Islands, 179, 182 167, 197, 327 falsificationism, 7, 10, 12 Fehr, Ernst, 37, 39, 39n. 8, 60, 77, 187, Gächter, Simon, 37, 60, 77, 187 Gage, Phineas, 250-51 Field, Alexander, xi, 41–44, 41n, 72, gambling, 263n, 281–82, 297, 308, 309 game theory. See also evolutionary 216 First Contact, 18 game theory Fisher, R. A., 102, 274 applications in social and biological Fitzgerald, Frances, 175n. 8, 322 science, xiii, 17 Flood, Merrill, 1, 2, 4, 5, 8–9, 34, 48 backward induction, 9, 38, 143, foraging algorithms, 122, 221, 222, 171n. 5, 328 cooperative, 2n. 3, 82 233, 247, 300, 305n, 307, 319, 325, coordination games, 42 in games against nature, 264, 307 dominant strategy, 2, 2n. 3, 9, short circuited, 208 30-31, 65, 95n, 144, 170, 189, formal education, 41, 284, 306 250, 327, 328, 333 Forrestal, James, 188n dominated strategy, 32, 48n. 18, 49 fossils. See paleontological evidence equilibria multiple, 30, 47, 83, 165, 316n, Fox, Robin, 131, 232 Frank, Robert, ix, xv, 7, 26, 49, 67, 329, 331 94, 98, 119, 122, 159-208, 244. self-enforcing, 83 equilibrium emotions as precommitment devices, Nash, 2-5, 30-31, 34, 37, 50, 74, 75, 76, 86, 89, 95n, 128, 140, on forecasting counterparty play in 176, 232 PDs, 233-34 selection of, 164 irrational behavior as rational, subgame perfect, 37n, 51, 163, 333 162-63, 185, 191, 200, 202, 204 unique, 30, 146, 333 experimental evidence (see entries relevance of group selection, 207 role of preplay communication, 253 for specific games)

first mover altruism, 61n. 138, 154, group selection, 61, 178, 180, 308, 326. See also evolutionary 164, 175, 190, 211, 232, 235, 244, 252, 257, 261, 262, 269, theory 271, 285 differential role in explaining altrufocal point, 51n, 165 ism toward kin and non-kin. folk theorem, 115, 147 112-19 limits of, xiii, 29-32, 222 distaste for among evolutionary noncooperative, 2 biologists, 97n, 106–7 non-zero sum, 2n. 3 economists largely unaware of, 106, preplay communication, 22, 34, 35n. 106n, 110 empirical unimportance of, 96 4, 244, 253, 270, 332 sequential move, 7n inconsistent with principles of natsimultaneous move, 169 ural selection, 46 not considered in heuristics and solution concept, 1n. 2 strategy profile, 2-3, 8 biases literature, 298 symmetric bargaining problem, 186-87 Hamilton, William Garcia, John, 56, 56n, 57 impact on economics, 324 kin selection, empirical predictions, gene-culture coevolution, 314–17 genetics, 16, 209, 225–27, 303 303 (see also evolutionary theory, kin selection) Geneva conventions, 130–32 genocide. See crimes, genocide Pleistocene conditions favorable to Germany, 29, 70, 78-79, 181, 248 group selection, 139 on social dilemmas, 150 Gigerenzer, Gerd on abilities as intuitive statisticians, on unbalanced sex ratios in arthropods, 102 63–64, 277–79, 298, 324 Harsanyi, John, 5 on belief formation, 6 on cheater detection, 253, 257–60 Hatfields and McCoys, 166-67, 172, 177, 179, 194, 217, 314 on genetic drift explanations, 107n on heuristics and biases program, Hebb, Douglass, 44n. 13 278, 285-86 Heller, Joseph, 128n Hemmings, Sally, 225 on history of statistics and social science, 275, 318 heuristics and biases, xv, 7n, 27, 29, 45, on power of simple forecasting 54, 58, 61–66, 200, 298 heuristics, 149 anchoring heuristic, 265, 268, 285 Gilovich, Thomas, 67, 267, 286–89 availability heuristic, 62, 62n, 265, Gintis, Herbert, xiii 267, 285 Golding, William, 214 multiplication of, 59, 268, 270, Gould, Stephen Jay, 108 285-91 graduate school admission rates of representativeness heuristic, 265–67, men and women, investigation of, 101 historical explanation, xv, 18, 27, Great Britain, 84, 88, 179 40-41, 44, 138, 318, 329-32, Green, Donald, 11, 12n. 13, 36, 48, 69, 73n. 43, 207n Hitler, Adolph, 176n, 180

http://www.press.umich.edu/titleDetailDesc.do?id=17253

The University of Michigan Press

366 Index

Hobbes, Thomas, 1, 1n. 1, 3, 4, 20, 24, expressive, 6, 36 facial expressions, 18-19 29, 32, 39, 43, 84, 110–11, 146, free riding, 35, 52, 68 209, 213 on human ability to kill others, 81 heroic, 216 awards for, 78-79, 95n, 124n, 151, on learning, 56 Leviathan and one-shot PD, 82 on original state, 75 incest aversion, 66, 137, 235, 242, on political structure, 25n. 23 284, 300, 300n sovereign nations in state of nature, infant, 153 83, 130 instrumental, 36 Hoffrage, Ulrich, 64, 277, 298 kindness, 23, 73 Hogarth, Robin, 296 paranoia, 188–89, 188n Holocaust, 29, 78, 167, 177 purposive, 6 Homo economicus, 76n, 162 self-control, 201 tool use, 75, 82, 214, 231 Homo erectus, 17n, 139, 318 Homo habilis, 318 Human Genome Project, 226–27 Homo neanderthalis, 17n human nature, theory of, 10, 13, 33, Homo sapiens, 229, 318 75, 303 bipedal motion, 218 teleological view of, 67n cranial capacity, 220, 221n, 225, Human Relations Area Files, 20, 20n, 231–32, 245 137 descent of larynx, 221 Hume, David, 7, 14, 56, 195, 279 infants born helpless, 218 hunter-gatherer societies, xii, 21n, 75, species typical design, 25n. 22 192, 209, 210, 234, 246, 264, 282, width of female pelvis, 218, 231 299, 304, 306, 308 host-parasite interactions, 99–100, 107 hunter hypothesis, 218–19 Hug, Klaus, 253, 259n, 260, 261 hyperbolic discounting, 199–200 human behavior. See also altruism; crimes; mutualism; punishment of Iceland, 227 defectors; restraint on first strike; ideology, xii, 42, 109 appeal of hunter hypothesis, 218 retaliation influence on science, 154, 154n, 159, affected by exposure to social science models, 66-71 aggression, ix, 23, 73, 81, 84, 88, 163 individual variation in humans, 197n, betrayal, 22 227, 306, 306n biological influences on, xi-xii, 25, in-group out-group distinction, 75, 77, 252 87, 92, 132, 216, 219. See also ethblink reflex, 255 nocentrism cannibalism, 18 innate drives, 55–58, 222, 223 conciliation, 88, 89 institutional variation, xi-xii, 16n, 40, cruelty, 18, 22, 73, 81 42, 44n. 13, 77, 335. See also deception, 1, 84 social norms deviant, 70 inefficient or maladaptive, 40-41, environmental influences on, 25, 88, 43n. 13, 135, 138 154, 223, 235 insurance, 188, 196, 280

http://www.press.umich.edu/titleDetailDesc.do?id=17253 The University of Michigan Press

Index 367

Internal Revenue Service, 178 International Human Genome Sequencing Consortium, 227 international law, 130 international relations, 26, 29, 83-88, 177, 244 as game of chicken, 86, 168–69 peaceful coexistence, 76, 84 international trade, 125 inverse genetic fallacy, 49, 49n, 111, 115, 195 invisible hand, 81, 303, 304 irrational behavior, 7-8, 23, 31, 36, 38, 54–55, 89, 123, 151, 160–63, 170, 171, 173, 181, 187 Islam, 60, 167 Israel, 38, 78, 167, 179, 188n, 300 James, William, 223, 334

Kagan, Jerome, 191 Kahneman, Daniel, 27, 45, 51, 60, 61-66, 62n, 262-91 Kant, Immanuel, 85n. 55, 137n. 8 Kasparov, Gary, 255 Kavka, Gregory, 7, 13, 48, 96n, 168 Kennedy, John, 170, 175n kin selection. See evolutionary theory; Hamilton, William Kissinger, Henry, 86–88 Kluckholm, Clyde, 137n. 9 Koehler, Wolfgang, 233 Koopmans, Tjalling, 12n. 14 Kristallnacht, 177 Kroeber, A. L., 43, 56, 317 Kropotkin, Peter, 216 Kruschchev, Nikita, 170

Jefferson, Thomas, 225

Lashley, Karl, 251 law, 130–32, 307. *See also* legal systems; *lex talionis* Lazear, Edward, 321–23, 329

Kuran, Timur, 18, 44, 85n. 55, 121n,

133, 135

LeDoux, Joseph, 245, 248, 253-54 legal systems, 24, 24n, 43, 44n. 13 LeMay, Curtis, 170, 175, 175n. 9, 176, 217 Levy, Jack, 85 lex talionis, 194, 215, 216 linguistics, 137, 137n. 8, 236–38 structural, 25n. 22 universal grammar, 18, 301, 335 Locke, John, 32, 33n. 3, 56, 209 logic, 6, 10, 32, 54, 122, 193, 231, 232, 243, 246, 249, 297 deductive, 12 law of contradiction in, 162–63 propositional, 59, 224, 262, 270, short-circuiting of counsel of, 129, 199, 210, 224, 247, 248, 250, 257, 261, 262, 273, 312 Lorenz, Konrad, 24n, 27, 27n. 25, 47, 70, 80–82, 97, 211, 219, 220, Lumsden, C., 110n. 15, 255, 315n, 316, 319

Machiavelli, Nicolo, 87 Maine, Henry, 72n, 130–32 Malotki, Ekkehart, 20, 243 Mandeville, Bernard, 303 markets, 71, 127, 307, 319 drain exchange of emotional content, 246-47 stock, 297, 308 marriage, 30, 203-4 of first cousins, 235 Marshall, Alfred, 310, 329 massive retaliation, 89, 89n mathematical reasoning, 10, 32, 122, 231, 232, 243, 246, 249, 253, 262, 297, 299, 332 rejection of counsel of, 129 Maynard-Smith, John, xv, 26, 93, 96, 97, 102, 105, 108, 109n. 15, 112n,

114, 122, 139, 186, 248n

on Axelrod's tournaments, 147

http://www.press.umich.edu/titleDetailDesc.do?id=17253

The University of Michigan Press

368 Index

Maynard-Smith, John (continued) dence, 9, 39n. 9, 53, 74n. 46, ESS as static concept, 115n. 19, 141, National Center for Biotechnology 154 on group selection, 108, 118 Information, 227 McCloskey, Deirdre, 12n. 14, 69n. 39, nation-state, 1 as unitary actor, 90 279 McNamara, Robert, 175n. 8 democratic, 176 Mead, Margaret, 20 justification for, 83 mental accounting, 286-87 natural law, 131-32 methodological individualism, 44-45, natural selection. See evolutionary the-107, 136, 223, 301 Neolithic revolution, xii, 44, 65n. 34, mimicry, 173 modularity, 191. See also cheater 75, 231, 243, 299n detection module; cognition, anineuroanatomy, 13, 16, 221, 237, mal; cognition, human; PD solu-243-53, 332 amygdala, 233-34, 246, 249, 252, tion module anatomical, 129, 246, 251, 254 behavioral, xiv, 26, 54-66, 269 brain damage and rationality, cognitive, xiii, 16, 26, 44, 54-66, 90, 249-54 223, 264, 269, 300 Broca's area, 237 and conflicting counsel, 129 imaging studies, 26, 246 and emotions, 161 limbic system, 247 money, 234, 304 neocortex, 221, 234, 245, 248, 253 and social relations, 58 prefrontal lobes, 246, 249 Montaigne, Michel, 293 Wernicke's area, 237 Morgenstern, Oskar, 2n. 3, 265 neurobiology, 13, 16, 26, 40, 61, 91, Murray, D., 275 191, 221, 233, 332 of animals, 63 Muth, John, 6, 147n, 325 of fear, 253-54 mutual assured destruction, 170-75, 179, 181 impact of learning on, 44n Neyman, Jerzy, 275 mutualism, 32, 33n. 3, 49, 76, 97, 112, Nicolson, Harold, 84 113, 119, 123, 125, 127, 154, 166, Nixon, Richard, rational irrationality of, 171n. 5 Nash, John, 194. See also game theory, North, Douglass, 42, 43, 293 equilibrium, Nash nuclear strategy, 169–77 contributions to noncooperative nuclear weapons, 84, 169 game theory, 2, 2n on deduction as technique for foreobservational evidence, 14, 15, 24n, 29, casting behavior, 195–96 33, 98, 328, 335. See also experiimplicit model of human behavior, mental evidence 67,86 voluntary provision of public goods, life history, 5 36, 60, 313 understanding of rationality, 249–50 voter participation rates, 26, 36, 36n unhappiness with experimental evi-Ockham's razor, 112

http://www.press.umich.edu/titleDetailDesc.do?id=17253 The University of Michigan Press

Index 369

279, 289, 293, 297, 310, 311, 313, original state, 1, 24, 168, 213 characterized by one-shot PDs, 328, 333 47-48 of changes as opposed to levels, 73, 305, 308 pacifism, 167, 172 clinical, 280 paleontological evidence, 26, 46, 129n, inductive, 70, 72 209, 210, 230, 306 Premack, David, 234, 240 gap in fossil record, 225 Price, George, 46n, 47, 93, 95, 97, used to calibrate clock of molecular 102-4, 112n, 114, 139, 186, 193, change, 228 248n Parsons, Talcott, 43, 323, 325n, 335 Price equations, 102–4, 115 Prisoner's Dilemma, 1-4, 24, 29-31, Pavlov, Ivan, 55 PD solution module, 10, 21, 33, 60, 80, 109 86, 220, 257, 269, 326 anonymity in, 48, 50 continuous defect strategy, 31, peace, 247 143-45 democratic (see democratic peace) human ability to make, 217 cooperation as altruistic, ix, 34, 39, Pearson, Karl, 274–75 52, 76n, 121, 123, 124, 247 personality traits, 199 discount rate, role in repeated heritability of, 197n games, 30, 115 philosophy, 17, 47, 50 fixed and known duration, 9, 10n, cognitive, 249 21, 30-31, 45, 128, 143-47, moral, 17, 33n. 2, 52, 165, 191 148n, 153, 167, 198, 222, 232 Pinker, Stephen, 64, 196, 223, 224, 237, forecasting play, 31, 65, 109, 144, 238, 239, 241–43, 245, 254n, 334 146, 170–71, 188, 198, 199, Pleistocene epoch, 66, 124, 139, 220, 233 221, 231, 259n, 283n, 285, 299, indefinitely repeated interaction, 24, 30–31, 50, 83, 115, 167, 213 political culture. See culture, political large brains and improved play, political science, 11, 12n. 13, 16, 17, 35, 232-33 one shot, 9, 10n, 21, 22, 30-32, 45, 42, 47, 50, 74, 156, 306, 313 attracted by rational choice 46, 51, 65, 69, 121, 123, 128, approaches, 161 153, 166, 167, 187, 197, 205, 211, 220, 221, 222, 232, 250, efforts to account for nondefection in PDs, 109 264, 271, 272, 296, 297, 302, 304, 308, 319, 329, 332 and international relations, 84–87 political theory, 1, 29, 133. See also role of statistical inference in, social contract theory 271 pop Darwinism, 17, 160, 162, 213, 323, transition from single to repeated 326 play, 32, 40, 47-50, 83, 98, 123, Popper, Karl, 12, 155n 165, 166, 195, 213 Poundstone, William, 4n. 5, 5, 137n. 9, prisoners of war, treatment of, 130–32 154n, 168, 169, 175 probability, 280, 299 prediction, 2, 4–7, 9, 11, 13–15, 18, 26, binomial distribution, 271 30, 45, 59, 70, 92, 183, 263, 266, proverbs, 291-92

http://www.press.umich.edu/titleDetailDesc.do?id=17253

The University of Michigan Press

370 Index

prudence, ix, 3, 68, 76, 181, 190, 200, high value placed on in Western cul-202, 206, 244 ture, 8 and nuclear strategy, 169 instrumental, 57 psychology, 16, 17, 27, 55–58, 133 and logic, 250 and reproductive fitness, 7, 8n abnormal, 80 behaviorist, 29, 55, 223 Reagan, Ronald, 174, 175n. 8, 322 clinical, 198 Rebel without a Cause (James Dean film), 168 cognitive, 314 Darwinian, 60 reciprocal altruism, 26, 113, 122-30, efforts to account for nondefection 193, 214, 231 in PDs, 109 in birds, 125 equipotentiality, 55-56, 58 among chimpanzees, 230 and international law, 130-32 law of effect, 55 operant conditioning, 55–57, 265, as nonsimultaneous exchange, 128 269 as trade, 128 psychoanalysis, 322 in vampire bats, 128 social, 306, 313 reciprocity, xi, 21, 23, 188, 302. See stimulus-response, 55-56 also reciprocal altruism altruistic origins of, 121 superego, 191 public goods, voluntary provision of, emergence of, 257 26, 29, 34–35, 37, 73, 74 functionally specialized reasoning systems and, 246 punishment of defectors, 51–52, 59, 81, 118, 134, 252, 262, 296, 302 generalized, 91, 234-35, 304 absence of rational foundation, 129, Reder, Melvin, 11, 49n, 159n, 296, 305, 253 319 as altruistic, 253 relativism, 69 in international relations, 84 cultural, 18-20 in Prisoner's Dilemmas, 116–17 religion, 24n, 322 in public goods experiments, 37 replicator dynamic. See evolutionary theory Quine, W. O., 279 reputation, 32, 37, 50, 98, 121, 161, 188–89, 195–99, 201, 205, 250 Rabin, Mathew, 253, 323, 324 restraint on first strike, ix, 21, 24, 36, racial differences, 77n. 50, 236, 306, 46, 51, 52, 59n. 27, 60, 61, 68, 73, 75, 90–91, 126, 168, 256, 313. See Rapaport, Anatol, 45, 146-47, 182n also PD solution module on benefits of more information in a retaliation, 51, 68, 168, 181, 187, 215. PD, 271 See also vengeance limits of game theory, 172 as altruistic, 190 rational choice, xii, 7, 11, 29 proportional, 216 rationality, 4, 8, 313 Ridley, Matt, 105, 106, 235, 316, 333 bounded, 271–72 risk, 7n, 10, 264 definition of, 5-10, 163 Robbins, Lionel, 12, 13 strong, 7, 33, 250, 323 romanticism, 68, 75, 80, 91 of first strike, 248 Rousseau, Jean-Jacques, 32, 75, 209

socialization, 24n, 41, 70, 81, 91, 184, 194, 214, 216, 235, 243, 248

Index 371

social norms, xii, 26, 32, 40, 60, 84, Russell, Bertrand 125, 133–39, 215, 223, 235, advocacy of nuclear first strike, 75, 168-70, 173, 217 301 on causality, 175n. 8 adherence to as altruistic, 134, 194, denied advocacy of first strike, 215 174-75 maladaptive, 137 evolution not relevant for philosouniversal and variable, 133 phy, 175n. 8 social organization, xii, 124, 153, 182, on induction, 15 188-89, 207, 209, 230, 233 complex, 246 origin of, 21, 26, 39, 46, 61, 268, Sagan, Carl, 188n, 247–48, 250 Sapir, Edward, 20, 243 295 Schindler, Oskar, 78 disintegration of, 23 scholasticism, 14, 15 language as precondition for, 238 social relations, 21, 302 science double blind protocols, 8, 276 among chimpanzees, 253 methodology of, 10-15, 314 grammar of, 240–43 social sciences, xi, 4-5, 10, 15, 16. See philosophy of, 11, 12n. 13 as progressive enterprise, 14, 70, also individual disciplines 306, 312, 314, 327 economic or rational choice tradition, xii, 16, 26, 71, 97, 331, 335 relations between social and natural, integration of, xii, xv, 136 xi-xii Selten, Reinhard, 5, 37n, 38, 139, 147n, positive vs. normative, 69 163, 164, 170-71, 172n. 6, 180, social scientific explanation, xv, 27, 185, 200–201, 263 330, 335 social structure, 17, 18, 40, 45, 301, 307 sex ratios, 101-2, 117, 193 sociobiology, 40, 60n, 136, 156, 228, sexual reproduction, system of, 105, 292, 299, 314–15 impact of possibility of group selecsignal emission and detection, 205-6 Simon, Herbert, 62, 271, 296 tion on, 111 sociological/anthropological tradition, Simpson paradox, 46n, 101 xii, 16-17, 26, 29, 40-45, 71, 97, sim-pua system, 300 Skeath, Susan, xiii, 141–42, 171n. 5 301, 331, 335 Skinner, B. F., 55–56, 65n. 35, 236, use of computers in, 314 254, 269, 301, 334 sociology, xii–xiii, 11, 16, 16n, 17, 18, Skyrms, Brian, 186-87, 308 42, 57, 91, 97, 133, 134, 306, 313, slavery, 18, 42n, 132, 179, 293 319, 320, 321, 335 Smith, Adam, 33n. 3, 73n. 45, 81, 111, foundational assumptions of, 111 231, 290, 304 historical development of, 56, 318 Sober, Elliott, 47, 93–102, 119, 134, influence of rational choice 156, 193, 202, 206, 207, 256, 304n approaches on, 161 social contract theory, 209, 253 sociopaths, 76, 76n. 49, 79, 80 social insects, 25n. 23, 303, 334 South Park, 177

Soviet Union, 44n. 13, 87, 88, 169-71,

175, 180-81, 217

http://www.press.umich.edu/titleDetailDesc.do?id=17253 The University of Michigan Press

372 Index

257, 261

Sperber, Daniel, 11, 175n. 8, 199 eschews appeal to group level selec-St. Petersburg paradox, 274, 274n tion, 122, 125 standard economic model, 7, 13, 14, on evolutionary foundations of 17, 57, 65, 91, 112, 152, 160, 181, emotions, 244-45 262, 268, 269, 272, 294, 303, 304, and inverse genetic fallacy, 123 308, 313, 320, 332 trust, 76n, 247n inconsistent with gene's eye view, trust, game of, 109n. 14, 127 155-57 trustworthiness, 109, 195, 202, 206 standard social science model, 57, forecasting, 233, 247 222-24, 223, 317 Tucker, Albert, 2 Tversky, Amos, 27, 45, 61-66, 62n, Stanley, Steven, 218 state of nature. See original state 262-91 statistical inference, 63, 198, 224, 231, twins, studies of, 197, 227 232, 246, 264, 270, 271, 297, 298, 308, 332 ultimatum game, 7n, 26, 29, 37–39, 51, statistics, 280 53, 151, 182, 187n. 13, 200, 296, binomial distribution, 267 297, 325 one shot with anonymity, 183–84, hazard functions, 280–81 history of, 283 statistical algorithm, 6, 54 uncertainty, 27, 264 Stigler, George, 73, 161 United States, 42, 88, 175, 180-81 structural functionalism, 16n, 40, 97, 99, 224, 316n vengeance, 194, 214-15, 216 subgame perfection. See game theory violence, intraspecific, 217 restraints on, 27, 43, 47, 70, 98, 129, sunk cost fallacy, 289–90 211-22 technology, 307, 317, 331 virulence, evolution of, 100, 105, of war, 76 117, 193 Telser, Lester, 197, 298n. 4 and voluntary provision of public terrorism, U. S. response to, 194 goods, 77 Thaler, Richard, 27, 45, 51, 59n. 25, viruses AIDS, 105 60, 184, 263, 269, 286, 288, 295, 296 myxoma, 99-100, 107 Thatcher, Margaret, 179 von Neumann, John Thomas, Robert Paul, 42, 293 advocacy of nuclear first strike, 75, Tit-for-Tat, xi, 27, 45n, 51-52, 81, 89, 168-73, 217 141, 142–50, 155, 164–65, 168, 193, certainty of nuclear war and human 194, 200, 201, 202, 230, 247, 302 extinction, 170 Tooby, John, 25n. 22, 27, 57-61, 59n. contributions to expected utility the-27, 62, 63, 68, 126, 156, 220–25, ory, 265 252, 253, 257–60, 267, 277, contributions to game theory, 2n. 3 282-83, 298, 300, 317, 324 voting, 26, 35–36, 41, 53, 178, 207n, Trivers, Robert, xv, 26, 49, 106, 109n. 296n, 297, 313 15, 119, 122–30, 134, 142, 150, as expressive behavior, 69n. 40 154, 160, 166, 192, 193, 207, 214,

Wald, Abraham, 274–75

The University of Michigan Press

315n, 319

Index 373

Wallenberg, Raoul, 78 war, 29. See also specific wars altruistic aspects of, 80 relatively rare, 83–84, 86, 182 restraint of violence in, 131 Warsaw uprising, 177 Wason selection test, 61, 62, 257–60 Watson, John, 56, 223, 334 Weart, Spencer, 77, 85–87, 85n. 55 weather forecasting, 6, 15, 281, 332 Whorf, Benjamin, 20, 243 Williams, George, 96-97, 100, 110, 118 Williams, John, 4-5, 4n. 6, 8, 9, 10, 21, 30, 39n. 9, 53, 62, 74n. 46, 121, 142, 146, 197, 249, 250 Wilson, David S., 25n. 22, 47, 93-102, 119, 134, 193, 202, 206, 207, 256, Wilson, Edward O., 90, 255, 303, 314,

altruism as central problem in evolutionary biology, 109 attitude toward group selection, 100 behavior of adoptive parents, 94 on economics, 193-94, 194n. 16, 311, 311n gene-culture coevolution, 316 hard vs. soft core altruism, 126 human reactions to cheating, 261 origin of reciprocally altruistic behavior, 115n. 20 problem of altruism largely solved, 109n. 15 World War I, 79, 86 World War II, 86 Wright, Sewall, 95, 96n, 100, 107n, 205 Wrong, Dennis, 32, 75, 132

Yossarian problem, 128