

Index

- adaptation: in the ancestral environment, 179–81, 186, 188–94; selection pressures and, 16, 175, 181–8, 186–8, 190–2; versus adaptationism, 175; violent behavior and, 179–83, 185–7. *See also* evolutionary psychology
- adoption studies, 6, 7, 73. *See also* heritability; twin studies
- agent-causation, 246–7, 263–6. *See also* causation; free will
- aggression, 11–12, 126, 179–80; MAO mutation and, 11–12. *See also* impulsivity
- aging, memory loss in (metaphor), 250–1, 253–4
- alcoholism, genetic studies of, 10
- allelic association studies, 103–4
- American Society of Human Genetics (ASHG), 39
- analysis of variance. *See under* quantitative genetics
- antisocial personality: behavioral heritability and, 7; correlations v. causes of, 39–41, 40f; DSM-III-R description of, 161–2; DSM IV description of, 161–2; as polygenic trait, 102
- Aristotle, *Nicomachean Ethics*, 247, 251–2, 254–6, 256 n.4, 262
- autonomy. *See* free will
- Avery, L. C. Bargmann, and H. R. Horvitz, *odr-7* study, 89
- Bad Seed, The* (film), 305–6, 318
- Bailey, J. M., et al., 99
- Bargmann, C.: neurobiological experiments with *C. elegans*, 87–91, 97, 105
- Baron, Marcia, 18, 201–23 (Chapter 8), 274
- behavior: adaptation and, 175, 179–83, 185–7; defined, 86; the genome as a “plan” for, 170–1, 174–7, 187–8; instinctual or species-specific, 84; “internal” vs. “external” causes of, 233–5, 238–40, 241 n.4, 246–8, 252, 254; social classification of, 12, 26–9, 42–4. *See also* behavioral genetics; violent behavior
- behavioral genetics, 5–6, 12–16, 104–5, 106; classification issues in, 26–9, 38, 42, 43–4, 201–2; controversies in, 1–5, 8–10, 25, 43–5; quantitative trait loci (QTL) studies, 103; ranking of interactive causes in, 33–8, 43; reductionism in, 31–3, 43; replications of experiments in, 99–100. *See also* genetic predisposition; heritability studies; neurogenetic/neurobiological research
- behavioral mutants: *C. elegans* mutants, 86, 88–9; *Drosophila* mutants, 93, 94–5; genetic explanations and, 95–8
- bell-curve (normal or Gaussian distribution), 149–50, 213
- benevolence, justice as, 17, 262–3, 266–8, 270–1, 282–3, 286–9, 297 n.16, 303
- Bennett, J., 291
- Benzer, S., 93

Cambridge University Press

978-0-521-62728-3 - Genetics and Criminal Behavior

Edited by David Wasserman and Robert Wachbroit

Index

[More information](#)*Index*

- Berlin, Isaiah, 290
 biological v. genetic factors, 51, 173, 203
 biologizing: of athletics, 158–60; of criminality, 142–3, 148, 157–8; of social behavior, 203
 bipolar disorder, genetic studies of, 10
 blameworthiness. *See* legal responsibility; moral responsibility
 Boyd, R., and P. J. Richerson, 184
 Brandon, R., 81
 Breggin, Peter R., *Talking Back to Prozac*, 159
 Brenner, Sydney, 85–6, 87
 Brunner, H. G., 10, 101, 126, 164, 190, 316
 Buchanan, Allen, 268–9, 288
 Buss, D., 177
- Carlton, L. R., 101
 causation (notion of), 38–42; linear approximation, 35–6; reductionism in assigning causes, 31–3, 43. *See also* genetic causation
C. elegans: behavioral mutants, 86, 88–91, 105–7; male mating behavior, 91–2; species description, 86–7
 Chalfie, M., and J. White, 86, 87, 91
 character: genetic predisposition and, 253, 254, 304, 308, 323 n.2; identity and, 18, 30–1, 293, 312–17, 320–1; moral luck and, 314, 318–20, 324 n.12; virtues and flaws in (Aristotelian perspective), 247, 251–2, 254, 261, 262, 264–5, 265 n.4, 271 n.5; and volitional impairment and, 252, 253, 255. *See also* free will
 Charcot, Jean-Martin, 146–7
 Churchland, P., and T. Sejnowski, 97
 City of Hope (research program), 146–7
 classification issues: defining antisocial traits, 141–2, 151–2, 155, 161–3; defining behavior, 12, 26–9, 42, 43–4, 201–2; defining criminality, 5, 12–13, 19–20 n.1, 126–7, 156–7, 201–2; taxonomies of “human kinds,” 154–5, 158, 160, 162, 163–4
 cognitive science, 124
 Colbert, H., 89–90, 105
 compatibilism: critique of (Garcia), 279, 283–90; generally, 18, 251, 277–83, 308, 310, 311, 321; philosophical foundations of (Slote), 17, 259–63
 common sense or folk psychology, 177–9
 Copeland, Peter, 36–7, 98
 Cosmides, L., and J. Tooby, 181
 crime and criminality: assumptions about, 405; biologizing of, 142–3, 148, 157–8, 160–3; definitional issues re: 19–20 n.1, 126–7, 141–2, 201–2; genetic heritability studies of, 7, 218 nn.1 and 2, 225–8, 233–4; genetic v. environmental/social causation of, 205–10; pathologizing of, 125–31, 136–8; as a “problem,” 144, 145, 164–5, 193–4; reactive heritability and, 128–9, 132–8, 157, 188; social construction of, 5, 12–13, 26–9, 42, 43–4, 156–7. *See also* genetic predisposition; violent behavior
 criminal justice: accountability and attribution in, 303–5, 312, 325–6 n.20; “diminished capacity defense,” 208, 210–11; educative or reformist theories of, 269; genetic markers as evidence, 19, 206–7, 228–31, 254–5; heat-of-passion defence, 211–12; insanity defence, 207–8, 209; legal precedents, 209, 212; punishment in cases of genetic markers (hypothetical cases), 17, 303–5, 309, 311–14; reform or prevention programs advocated, 218, 269; the social contract and, 261–2; treatment of individuals with genetic markers, 17, 303–5, 309, 311–12, 313–14. *See also* legal responsibility; retribution
- Daly, Martin, and M. Wilson, *Homicide*, 177, 180–2
 Darwin, Charles, 171
 definitional issues. *See* classification issues
 DeFries, J. C., 101
 depression, genetic studies of, 248
 determinism: environmental, 76; genetic, 26, 31–2, 83, 109, 173, 243, 321; moral agency/free will and, 16, 244–8, 252–3, 273, 290–5. *See also* free will
 developmental genetics, 56, 61, 76–7, 138 n.5

Index

- DeVries, J., 105
Diagnostic and Statistical Manual of Mental Disorders: DSM-III-R, 161–2; DSM-IV, 151–2
 diseases, genetic, 10, 38, 317; Huntington's disease, 101, 317; PKU, 58
 Dostoevsky, Fyodor, *The Brothers Karamazov*, 320
 Douglas, Mary, 145
Drosophila, 92; behavioral mutants 93, 94–5t, 96–7; courtship mating behavior of, 93–7, 94–5t, 112 n.10; *fru* (fruitless mutation), 94t, 96–7
 drugs: addiction to, 130–1, 159–60; to treat disease or condition, 118, 159–60
 “Dutch family” study, 10–11, 101, 126, 164, 190, 316. *See also* MAO mutation
 Dworkin, Gerald, 320
- ELSI (Ethical, Legal, and Social Implications Program), 3
 environmental factors: in altered or new environments, 58–9, 66–70, 67f, 69, 77 n.9, 122; criminal behavior and, 120, 234–8; defining and classifying, 72–5, 308; heritability and, 57–8, 66; in natural (vs. controlled) environments, 60–1, 71–2; phenotypic variance and, 90, 120; protective (in case of genetic predisposition), 217–18; versus genetic factors, 51–3, 72–5. *See also* genetic causation; interactionism; social contingencies
 environmental variance, 47; genetic variance and, 48–9, 51–5, 64, 68, 70–1. *See also* phenotypic variance
 epilepsy, genetic studies of, 146
 Ethical, Legal, and Social Implications (ELSI) Program, National Center for Human Genome Research, 3
 ethology, 84
 eugenics, 2, 3, 149–52
 evolutionary psychology, 16, 153, 169, 172–7. *See also* adaption
- Feinberg, Joel, 321
 Ferveur, Jean-François, 97
 folk psychology, 177–9
 Frankfurt, Harry, 291, 256 n.2, 320
 free will: the assumption of agent-causation, 246–7, 263–5, 290–1; compatibilist view of, 245–6, 300–1 n.29; determinism and, 16, 244–8, 252–3, 264–5, 273, 283, 285, 290–45; genetic predisposition and, 201–4, 209–10, 213–14, 230–6, 244, 269–71, 290–2; metaphysical conception of, 290–1; moral responsibility and, 276–7, 294–5; self-control and, 201–4, 209–10, 213–14, 230, 244, 269–71; Spinoza on, 259–60, 262–3, 289–90, 322. *See also* character; compatibalism; incompatibalism; moral responsibility
- Garcia, Jorge, 17, 18, 273–302 (Chapter 12)
 “gay gene,” 100–1, 145
 gene-environment interactions, 54, 50–5, 57–9, 73–5, 112 n.4, 192–4; developmental genetics and, 76–7; formula expressing, 120. *See also* interactionism
 gene-gene interactions, 90
 “Genetic Basis of Complex Human Behaviors, The” (Plomin et al.), 40f, 169
 genetic causation: complexity of, 8, 102, 109, 187, 192–4, 225; direct versus indirect, 41–2; polygeic, 108; versus analysis of variance, 39–41, 40f, 43. *See also* causation (notion of); genetic predisposition
 genetic determinism, 26, 31–2, 83, 109, 173, 243, 321. *See also* determinism; genetic causation
 “Genetic Dissection of Complex Traits, The” (Lander and Schork), 103
 genetic engineering, 324 n.11
 genetic explanations: behavioral mutants and, 95–8; causal-mechanical approach (genetic mechanisms), 81–3, 104, 107, 180; conceptual assumptions, 13, 35–6, 313–14; deductive nomological model, 81, 83, 104, 110; explanatory limits, 117, 118–19, 123, 124; mechanical explanations and, 79–80, 111–12 n.3; sociopolitical implications of, 117. *See also* behavioral genetics; neurogenetic/neurobiological research
 genetic predisposition: “all-or-nothing view” of, 276–7, 294–5; in asymptotic

Index

- genetic predisposition (*cont.*)
 matic individuals with, 35–6, 201–2, 214–18; defined, 306–7; free will or self-control and, 201–4, 209–10, 213–14, 230, 269–71, 290–2; gene-environment interaction in, 117–18; an individual's possible identification with, 155–6, 157, 163, 16–17, 312–13, 320–2, 325 n.20; mechanisms and pathways to, 16, 119, 131–2, 188–92, 307; problems and benefits of testing for, 214–18, 222 n.26, 283, 315; “strong genetic influences” model of, 18, 273, 275, 276–8, 284, 310, 315, 322; therapeutic treatment of, 315; versus congenital factors, 316–17. *See also* free will; genetic causation; heritability
- genetic variance: environmental variance and, 48–9, 51–5, 64, 68, 70–1. *See also* heritability; phenotypic variance
- Gibbard, Allan, 16, 142, 153, 169–97 (Chapter 7)
- Goodman, Nelson, 155
- Goodwin, F. K., 160
- Goring, Charles, 149–52
- Gottesman, I., and H. H. Goldsmith, 306, 307
- Greenspan, Patricia, 18, 243–58 (Chapter 10), 277–83, 308, 310, 311, 321
- Greenspan, R. J., 93, 97–8
- Hacking, Ian, 15, 141–67 (Chapter 6), 155
- Hall, Jeffrey C.: studies of *Drosophila* courtship behavior, 93–7, 94–5t, 96–7
- Hamer, Dean, 36–7; studies of male sexual orientation, 98–101, 102, 110, 111
- Hamilton, W., 175
- heritability, 7–8, 39, 47, 187; defined, 39, 54, 118, 119, 138 n.3, 169–70; developmental processes and, 76–7; heritability studies, 1–2, 9–10, 38–40, 103, 121–2; limitations of heritability studies in determining, 7–8, 121–4; social or environmental intervention and, 57–8; studies of, 1–2, 9–10, 38–40, 103, 121–2; versus inheritance, 7–8, 14, 48, 54, 57, 169
- Herrnstein, Richard, 150; and C. Murray, *The Bell Curve*, 213
- Hinckley, John, 207
- homicide: diminished-capacity defense, 208, 210–11; genetic studies of, 177, 180–2; heat-of-passion defense, 211–12; insanity defense, 207–8; variation in causes of, 193
- Human Genome Project, 3, 85
- identical twins. *See* twin studies
- identity (personal), 18, 30–1, 293, 312–13, 314–17, 320–1
- impulsivity, 101, 160; issue of moral agency and, 18, 211–13, 296 n.7, 306–7, 321, 323–4 n.7; neurogenetic research on, 11–12, 244, 248–51, 310–11
- incompatibilism, 246–7, 289, 294–5, 295 n.1, 309–12, 319
- inheritance: Mendelian theory of, 80–1, 107; versus heritability, 14, 48, 54, 57, 169
- inhibition, lack of. *See* impulsivity
- insanity defense, 207–8. *See also* criminal justice
- interactionism, 33–8, 43. *See also* gene-environment interactions
- intermittent explosive disorder (IED), 161–2
- IQ (intelligence quotient): criminality and, 149–51, 221 n.15; debate over genetic contribution to, 58–9, 69, 74, 183; heritability of, 7; MAO mutation and, 11
- Jencks, C., 30, 39
- Jensen, C., 58
- Kandel, E. R., J. H. Schwartz, and T. M. Jessel, *Essentials of Neuroscience and Behavior*, 105
- Kanner, Leo, 156
- Kant, Immanuel, 261–2, 290–2
- King, M. C., 100
- Kitcher, P., 81, 104
- Kruglyak, L., 99–100
- Kuhn, Thomas, 104, 145
- Kupferman, I., 84
- Lakatos, Imre, 144–6, 147
- Lander, Eric S., and L. Kruglyak, on replicating experiments, 99–100; and

Index

- N. J. Schork, "The Genetic Dissection of Complex Traits," 103
- learning: and plasticity of organisms, 90, 98; resistance to, 306–7
- leech, neurobiological studies of, 91–2
- legal responsibility, 13; insanity defense, 207–8, 209; moral responsibility and, 205–6, 210, 261–6, 303–5, 322; precedents establishing, 208–13; volitional component of, 18, 207–8, 256 n.2, 262–3, 289–90, 322. *See also* moral responsibility; retribution
- LeVay, S., 98; and D. Hamer, 100
- Lewontin, R., 57–8
- Linnoila, M., et al., 160
- Locke, John, 154–5
- Lockery, S., 91
- Lombroso, Cesare, 148
- Lorenz, C., 84
- McClearn, G., 105
- McGuffin P., 40f, 169
- Malcolm X, 189–90
- MAO mutation, 9–10, 316; and aggression, 11–12. *See also* impulsivity; serotonin levels
- markers, genetic. *See* genetic predisposition
- "mean gene," 145
- "medicalization" of social behavior, 203
- Mendel, Gregory: theory of inheritance, 80–1, 107
- Millard v. State*, 209
- Mill, John Stuart, *On Liberty*, 290
- molecular genetics, 8, 15, 111; MAO mutation, 9–10, 316. *See also* neurogenetic/neurobiological research
- moral luck, 314, 318–20, 324 n.12
- moral responsibility: assignment of, 264–5, 278–9, 289, 296 n.6; cases of genetic predisposition considered, 16–19, 201–4, 209–14, 242 n.9, 252–7, 275–9, 309–12, 319, 322; criminals as "moral monsters," 260, 285–6; degree of control over actions and, 241 n.4, 246–8, 255, 278, 282; determinism compatible with, 273–4, 279–83, 284, 289–90, 294; free will in relation to, 276–7, 294–5; legal responsibility and, 205–6, 210, 261–6, 303–5, 322; onset of behavior as a factor in, 254, 316–17; social contingencies and, 18, 254, 307, 316, 322. *See also* character; determinism; free will; legal responsibility
- Morgan, T. H., 92
- Nagel, E.: analysis of mechanical explanations, 79
- National Center for Human Genome Research, 3. *See also* ELSI; Human Genome Project
- National Institutes of Health (NIH), 3. *See also* ELSI; Human Genome Project
- "nature versus nurture" controversy, 30–1, 33, 47, 84
- neurogenetic/neurobiological research, 1, 8, 84–6, 91–92, 98; *C. elegans* (Bargmann), 87–8; command neurons, 84; of *Drosophila* (Hall), 93–7, 94–5; embryogenetic development, 90; multifunctional neurons, 90; mutation studies, 88–91, 105–7; neuroanatomy, 97; neurochemical substrate of behavior, 33, 306–7; rules relating genes and neurons, 85, 89, 90, 102; single-gene behavior links (rare), 91. *See also* evolutionary psychology; MAO mutation; serotonin levels
- neurosis, genetic studies of, 7
- Nisbett, R., 183
- Owen, M. J., 40f, 169
- Paternalism, 294
- Paul, Galatians 5:1, 292
- Pearson, Karl, 149–52
- People v. Tanner*, 209
- pharmacology. *See* drugs
- phenotype: behavioral, 83; defined, 51–2; genetic contribution to, 10–11, 51–5, 59–60, 60f, 119, 123–4; phenotypic traits, 77 n.2
- phenotypic variance: complexity of factors in, 54–5; environmental contribution to, 90, 120; formulas expressing, 71–2, 120; in humans, 57–8; linguistic (of native languages), 123–5; within vs. between populations, 76. *See also* genetic variance; gene-environment interaction
- Plomin, Robert, et al., 39, 40f, 102, 105, 169

Index

- Popper, Karl, 144
 Powledge, T., 142
 Prozac, 159
 psychology: of criminal behavior, 119, 125–7, 171–4; DSM-III-R description of antisocial personality disorder, 161–2; DSM IV description of antisocial personality disorder, 151–2; psychological traits, 69–70. *See also* neurogenetic/neurobiological research public policy, 170
 punishment. *See* criminal justice; retribution
- quantitative genetics, 14, 47, 72;
 analysis of variance (ANOVA), 48–9, 55–6, 57, 58–63, 77 n.1 and 8; developmental processes not considered in, 76–7; distinguishing genetic from environmental variance in, 48–9, 51–5, 64, 68, 70–1, 73–5; environmental alteration and, 58–9, 66–70, 67f, 69, 77 n.9; formulas expressing variance, 49, 50, 53, 54, 64–5, 68–9; variance v. causation, 39–41, 40f, 43. *See also* environmental variance; genetic variance; phenotypic variance
 quantitative trait loci (QTL) studies, 103
 Quetelet, Adolphe, 153
- racism, 4, 74
 Railton, P.: on the ideal explanatory text, 104, 111
 Rawls, John, 262
 reactive heritability, 128–9, 132–8, 157, 188
 recidivism, 163–4, 304, 322–3 n.1
 reductionism, 31–3, 43. *See also* genetic determinism
Regina v. Newell, 212
 retribution, 17, 16, 251–6, 256–7 n.5, 259–61, 266, 269, 270–1, 280–2, 297 n.13, 303; reactive attitudes, 16, 252–3, 255, 270. *See also* moral responsibility
 Rice, G., et al., 99, 100
 Risch, N., 99
Roberts, State v., 209
 Rose, Steven, 43–5
 Rutter, M., 142
 Salmon, W., 81–2; on the causal-mechanical approach, 81–3
 Saunders, A. R., 99
 Scanlon, Thomas, 262, 265
 Schaffner, Kenneth, 15, 79–16 (Chapter 4), 142, 154. *See also* genetic explanatory model (GE)
 schizophrenia, genetic studies of, 7
 Schoeman, Ferdinand, 319
 Schork, N. J., 103
 Sejnowski, T., 97
 Sengupta, P., et al., 89–90, 105
 serotonin levels: aggressive behavior and, 126, 159, 160, 185, 204, 248–51, 254; CSF 5-HIAA metabolite, 11. *See also* MAO mutation
 sexual orientation studies, 98–101, 110, 111
 Slote, Michael, 17, 279, 283–90, 259–71 (Chapter 11), 297 n.16, 299 n.23
 Sober, Elliott, 14, 38, 47–78 (Chapter 3), 111; on the additivity thesis, 66–70, 77 n.9
 societal contingencies, abusive parenting, 18, 254, 316; criminal behavior and, 120, 128–38, 157, 234–8; in defense or mitigation of criminal behavior, 18, 190, 254, 307, 316, 322; triggering a genetic predisposition, 218. *See also* environmental factors
 sociobiology. *See* evolutionary psychology
 Spinoza, *Ethics*, 259–60
State v. Roberts, 209
 Steele, C. M., 184, 188
 Strawson, Peter F., 16, 252, 255, 270–1, 273–4, 292, 294–5
 Stump, Elenore, 292
 Symons, D., 177
- Taylor, Kenneth, 14, 15, 38, 117–39 (Chapter 5), 157
 Tooby, J., 181
 Tourette, Gilles de La, 146
 Tourette's syndrome, 146
 twin studies: of behavioral conditions, 7; of criminality, 164–5, 202; critique of, 75–7; monozygotic (MZ) twins reared apart, 63–6, 70, 121; monozygotic (MZ) v. dizygotic (DZ) twins, 68–70, 77–8 n.10, 102, 121. *See also* adoption studies; heritability

Index

- Uniform Crime Reports*, 156
- Van Fraassen, B., 104, 110–11
- Van Inwagen, Peter, 17, 225–42 (Chapter 9), 274–9
- variance. *See* environmental variance; genetic variance; phenotypic variance
- “Violence Initiative,” 304
- violent behavior: adaptation and, 179–83, 185–7; changing classifications of, 26–9; constitutional volatility, 306–7; genetic heritability research on, 4, 10–13; inhibition of, 180–1; intermittent explosive disorder (IED), 161–2; questions regarding issue about causality, 29–33, 35, 39–43, 147, 172–5, 188, 192; selection pressures of ancestral environment and, 16, 153, 165, 179–83, 185–7, 188–94. *See also* aggression; antisocial personality; impulsivity
- Virkunnen, M., and M. Linnoila et al., 160–2, 1641
- virtue ethics (Aristotelian), 247, 251–2, 254, 261, 262, 264–5, 265 n.4, 271 n.5
- volitional component of legal responsibility, 18, 207–8, 256 n.2, 262–3, 289–90, 322
- Wachbroit, Robert, 1–21 (Chapter 1), 14, 25–46 (Chapter 2)
- Wasserman, David, 1–21 (Chapter 1), 18, 271 n.3, 303–27 (Chapter 13)
- Watson, Gary, 292, 304–5, 312, 318, 319, 325 n.20
- White, Dan (trial of), 210–11
- White, John, 86, 87, 91
- Williams, Bernard, 315
- Williams, G., 175
- Wilson, Margot, 177, 180–2
- Wimsatt, W., 81
- Wojtyła, K., 293–5
- Wood, W., 87
- XYY karyotype, 8–10, 208–9, 218 n.1 and 2, 220–1 n.15