Index to Volume 2

Note: Page numbers followed by the letter f refer to figures and t to tables.

Abelson, R., 331
Abravanel, E., 111, 112, 114, 115
Accidental actions
and learning novel words, 144
understood by infants and children, 31–32, 140, 145
Actions induced by perception, 9–11, 48–49. See also Perception, action modulated through
Active intermodal mapping (AIM), 72–73, 73f, 75n, 179, 193
Adaptive feedback control in shared circuits hypothesis, 12
Adolphs, R., 96
Advertising, and imitative influences on behavior, 37
Age
and deferred imitation, 125, 130–131
and goals inferred by infants, 63–64
and imitation of invisible gestures, 115
and Piaget’s timetable of infant development, 107–131
Aggressive behavior imitated after observation of violence, 258–260
Akhtar, N., 143
Akins, C., 190
Alberts, B., 357
Aldridge, M., 144
Alex (parrot), 17–19, 33n
Allen, M., 375
Allen, W., 235
Allport, G., 210
Amoralists, 268
Analog motoric communication, 42
Analog representations in human brains, 285, 290
and emergence of language, 294, 298
Analogical inferences
in first-to-third person inference, 25, 28, 29
in “like me” recognition, 95, 104–105
used by infants, 98–99
Analysis by synthesis, 101, 104, 105, 168–170
Anderson, C.
cited by Comstock, 372–373, 376, 379
cited by Huesmann, 257n, 387
cited by Hurley, 381n, 385
Andison, F., 375, 376
Animal and nonhuman studies
dolphins, 14
imitation in, 299
evidence of, 14
introduction to, 13–21
with novel acts, 58
imitative learning in, 134–137
mimetic skills in, 285–286
Animal and nonhuman studies (cont.)
  perception and memory of events in, 295
  and inability to transmit perceptions to others, 297
  social learning in, 14
  two-action method of learning in, 15–16, 19
Anisfeld, M., 107–131
  cited by Hurley & Chater, 11n, 30
  cited by Meltzoff, 71, 77n
  commentary by Elsner, 191–194
  commentary by Zentall, 189–191
Anticipation, imitation in, 218
Antisocial personality disorder, 268
Anxiety, chronic inhibition in, 271
Apes
  emulation by, 136
  imitation by, 14
  interactions with others, 168
  mimetic skills in, 285–286
  mimicry by, 134–135, 146
Appearance-reality distinctions in
  shared circuits hypothesis, 13
Arbib, M., 6, 17, 42n, 43, 50, 385
Aristotle, 207
Arousal response
  after observed violence, 258
  in matching of tongue protrusion, 112, 114, 115, 191
  unwanted imitation in, 166
Arrow, K., 44n
Arsenio, W., 279
Art, mimesis in, 299
Artificial fruit experiment, 19–20
As-if rationality from memetic replicators, 44
Ascent routines, 105
Asch, S., 333
Asendorpf, J., 61
Ashcroft v. Free Speech Coalition, 383n–384n
Associative sequence learning (ASL), 11–12
Astoning, J., 57, 92
Atran, S., cited by Gil-White, 320, 328, 329, 330, 331, 333, 334, 335
Attentional focus in communication, entrainment in, 167–168
Attitudes, stereotype activation affecting, 216
Audience interpretations of violent actions, 247–248, 250–251
in media coverage of war, 253
Auerbach, E, 299
Aunger, R., 317, 317n, 322, 336
Autism
  cerebellar dysfunction in, 168
  deficits in, 50
  difficulties with imitation, 86–89
  dysfunction of mirror system in, 26–27
  emotional responses in, 275, 276
  and imitation by children, 144–145, 148
  lack of mimetic action in, 286
  mirror neurons in, 90, 165
  model/rival training in, 18
  moral concepts in, 275
  therapy for, 18n
  and understanding of others, 75
Automatic imitation
  inhibition of, 9
  resistance to, 37
Aversive self-consciousness, 273–274
Bacharach, M., 11, 223, 226n, 229n, 231
Baldwin, J., 76
Banaji, M., 213
Bandura, A., 259, 261, 372, 374, 378, 387
Bagh, J.
  cited by Dijksterhuis, 208, 210, 212, 213, 214, 215, 218, 219, 220
Behavior
adjusted to other persons, 213, 217
observational learning of, 259
reenactment procedure, 62–64
Behavioral activation system (BAS), 262
Behavioral inhibition system (BIS), 271–273
Bekkering, H., 64, 141, 145, 148
Beliefs
affecting induction of imitation, 10
normative, for problem solving,
observational learning of, 250
Bellagamba, F., 63, 140
Belson, W., 376–377, 379
Berkowitz, L., 258, 387
Bernieri, F., 210
Binford, L., 150
Binmore, K., 43–44, 303–305, 308n,
402–403, 405
Biological change
analogous with social evolution, 303–305
and capacity to learn, 50
and cultural evolution, 50
global selection in, 357
inheritance, mutation, and selection
in, 318–319, 355
and memetic evolution, 45
natural selection in, 356, 360
random variation in, 356–357
Birds
imitation by, 14
mimicry by, 135
Birdsong analysis by synthesis, 169
Bishop, B., 239
Bjorkqvist, K., 261
Blackmore, S.
cited by Chater, 356, 362n
cited by Donald, 300n
cited by Gil-White, 321, 322, 328, 329,
335, 336–337, 338n
cited by Hurley & Chater, 21n, 43, 47
commentary on Donald, 396–398
commentary on Gil-White, 406–409
commentary on Greenberg and on
Chater, 409–411
Blair, R., 269–270, 271, 273, 275, 279
Blakemore, S., 66
Blanke, O., 178
Blindfolds affecting gaze following by
infants, 67–69, 76, 177
Bloch, M., 330
Blunkett, D., 233n
Body-image, self-imitation affecting,
171–172
Body posture imitated by interaction
partners, 210–212
Boundary conditions of imitation, 166–167
Box touched with forehead, by infants,
58n, 58–60, 59f
Boyd, R.
cited by Gil-White, 319, 323n, 325,
329, 332, 333, 335, 336, 337
cited by Greenberg, 340, 340n, 348
cited by Hurley & Chater, 45
Boyer, P., 319, 331, 333, 334, 335
Brain. See also Neural system
design affecting memes, 337
event perception in, 294–295
Brain (cont.)
networks of brains producing language, 290–291, 294
plasticity of, 291
systems affecting social learning, 294, 298
Braten, S., 87, 88, 89
Breder, C., 208
Brewer, M., 213
Brison, S.
cited by Dijksterhuis, 220n
cited by Hurley, 384n
cited by Hurley & Chater, 35, 50
cited by Kinsbourne, 172n
commentary on Dijksterhuis, 363–365
commentary on Kinsbourne, 202–204
Broadbent, M., 210
Broca’s area of brain
activated during imitation, 6, 50
mirror neurons in monkey homologue, 5–6
Brooks, R.
cited by Claxton, 196
cited by Harris, 177
cited by Meltzoff, 49, 56, 67, 68, 76
Brown, J., 88, 385
Brown, R., 213
Bruner, J., 57, 195
Bryson S., 144
Buccino, G., 72, 97n
Bugnyar, T., 136
Bulger, J., 244
Burgess, A., 373, 244, 372
Bushman, B.
cited by Comstock, 372–373, 376, 379
cited by Huesmann, 257n, 258, 259, 260, 266, 387
cited by Hurley, 381n, 385
Butterworth, G., 258
Byrne, D., 216
Byrne, R. W.
cited by Anisfeld, 110
cited by Hurley, 382
Cited by Hurley & Chater, 14, 14n,
16n, 16–17, 18, 42n, 43, 50, 51
Cited by Meltzoff, 58
Cited by Tomasello & Carpenter, 136, 146
Cited by Zentall, 189n
Calibration of emotions, 273–274, 280
Call, J.
cited by Hurley, 382
Cited by Tomasello & Carpenter, 38, 135, 136, 137, 148
Camerer, C., 301n
Camouflaging, 224, 232
Campbell, F., 135
Canonical neurons, 3
Caprara, G., 272
Carlson, S., 92–93
Carpenter, M., 133–148
Cited by Harris & Want, 159
Cited by Hurley & Chater, 22, 30–32, 38
Commentary by Claxton, 194–196
Carruthers, P., 25n
Carver, C., 36, 214, 219
Carver, L., 128, 131
Castro, L., 319
Cavalli-Sforza, L., 319, 340n
Cerebellar dysfunction in autism, 168
Chameleon effect in social environment, 36–37, 383
Chaminade, T.
cited by Huesmann, 386n
cited by Humphrey, 179
cited by Hurley, 385
cited by Hurley & Chater, 6, 7, 8, 22n, 27, 30, 41n, 48
cited by Meltzoff, 62, 73
Charney, E., 210
Chartrand, T.
cited by Dijksterhuis, 208, 210, 212
cited by Hurley, 383
cited by Hurley & Chater, 36n, 37
Chater, N., 1–52, 355–362
    cited by Gil-White, 338n
    cited by Greenberg, 353n
    cited by Harris & Want, 162n
    commentary by Blackmore, 409–411
Chen, M., 36, 213
Chesterton, G. K., 239

Children
    exposure to violence causing later aggressive behavior, 260–264
    alternative views of, 247, 264, 265, 266
    in laboratory experiments, 260–261
    in longitudinal studies, 262–264, 263t
    in one-shot field studies, 261
    role of imitation in, 264–266
    imitating aggressive behavior after observation of violence, 258–260
    imitation compared to chimp imitation, 19–20
    imitative learning in accidents or trying and failing in, 138–140
    in autism, 144–145
    different interpretive contexts in, 140–142
    reciprocal behavior in, 142–143
    unusual means in, 138
    in word-learning studies, 143–144
    moral responsiveness in, 277
    role-play in, 27, 91–93
    selective imitation in, 33–34, 151–162, 197–198
    sensitivity to moral rules, 278–279
    understanding intentions of others, 31–32, 137–146, 147t
Child’s Play 3, 244

Chimpanzees
    emulation by, 20, 136
    imitation by, 19–20, 34
    compared to imitations by children, 19–20, 146
    mimicry by, 134–135
    tool use by, 151
    Chomsky, N., 109, 331, 361
    Christiansen, M. H.
        cited by Chater, 359
        cited by Donald, 300n
        cited by Hurley & Chater, 6, 42–43, 50
    commentary on Donald, 391–396
    Churchland, P., 199, 200
    Cistrons as units in storage, 330
    Claire, A., 239
    Clark, A., 200
    Claxton, G.
        cited by Hurley & Chater, 6n, 35, 50
    cited by Kinsbourne, 172n
    cited by Tomasello & Carpenter, 148n
    commentary on Kinsbourne, 199–201
    commentary on Tomasello & Carpenter, 194–196
    Cline, V., 260
    A Clockwork Orange, 244, 367, 372, 373
    Clowes, M., 200
    Coding of actions
        in imitation, 164
        mirror neurons in, 69–73
    Cognition
        language produced in interconnected systems, 291
        observational learning of, 259–260
        skills in mimicry, 224–225
        views of, 49
    Cognitive function of representational imitation, 108
    Cohen, E., 378, 379, 380
    Cohen, S., 251
    Cole, P., 274
    Coles, M., 273
    Collie, R., 126–127
    Common coding of perception and action, 49, 72–73
    Commonsense psychology. See Folk psychology
    Communication, entrainment in, 167–168
Comparator system in human brain, 3–4, 5
and shared circuits hypothesis, 12–13
Compensation for sensory or motor deficits, 75n
Complex behavior, deferred imitation of, 117
Comstock, G.
cited by Eldridge, 254n
cited by Harris & Want, 162n
cited by Huesmann, 259, 260, 261, 266
cited by Hurley, 385
cited by Hurley & Chater, 39–40, 50
commentary on Eldridge, 371–380
commentary on Harris & Want, 197–199
Condon, W., 167
Conformity-biased memes, 333–334, 335
Consolatory behavior in young children, 276–277, 281
Constitutive mirroring, 28, 29, 32
Contagions
crying by infants, 99, 108, 275, 276
emotional, imitation in, 275–276, 277, 278, 281
Conte, R., 335
Conversation, affiliative effect of, 170
Conway, C., 391n, 393
Coordination, and effects of perception on action, 10
Copying
and emulation or imitation, 2
mistakes producing memes, 322n, 322–329, 339
modest errors in, 325, 325f
Corkum, V., 67
Corner, J., 250
Corrected imitations by infants, 72
Correspondence problem in imitation, 2–3, 11, 71–72, 77
Cosmides, L., 333, 334
Cost of mimicry in signaling, 230, 240
in signs, 231–234
Covert imitation, 37, 163
Crick, N., 387
Criminal behavior, deceptive mimicry in, 369–371
Crying contagion in infants, 99, 108, 275, 276
Cubbitt, R., 312n
Cues of identity, 231
Cultural change
Darwinian views of, 339, 341, 342, 355–362
goal-based explanations of, 351n, 351–352
goals versus memes in, 339–353, 409–411
inheritance, mutation, and selection in, 318–319, 355
memes in, 356
local selection of, 358
Mendelian views of, 355–362
produced by design, 361–362
Culture
and competition among memes, 337, 358
evolution of, 50
generated by mimesis, 299
and imitation, 35–48
commentary and discussion on, 363–411
mimetic adaptations, 292, 357
selectionist approaches to, 321
and struggles caused by value conflicts, 250
transmission of memes in, 317–339
Custance, D., 135
Dale, R., 391n
Darwinian processes
in biological evolution, 318
in memetics, 45, 47
Davidson, D., 28, 79
Davies, M., 25n
Dawkins, M., 230
Dawkins, R.
cited by Blackmore, 396, 407, 410
cited by Chater, 355, 356
cited by Gil-White, 317, 320, 321, 322n, 328, 330, 335, 336
cited by Greenberg, 339, 340, 349–350, 402–403, 404
cited by Hurley & Chater, 38, 43, 45
cited by Sugden, 301, 303, 306, 315
Dawson, G., 75n
de Waal, F., 150, 277, 389, 390
Deacon, T., 394
Deceptive mimicry, 221–241. See also Mimicry
Decety, J.
cited by Dijksterhuis, 209
cited by Humphrey, 179
cited by Hurley, 385
cited by Hurley & Chater, 6, 7, 8, 22n, 27, 30, 41n, 48, 51n
cited by Meltzoff, 61, 62, 66, 73
cited by Sugden, 388n, 389
Decision making, economic theories of, 301–303
Deferred imitation
and activation of known behaviors, 123, 125
examples by Piaget, 116–118
experimental studies, 118–129
with 6- and 9-month-olds, 126–127
with 6- and 12-month-olds, 123–125, 124t
with 9-month-olds, 119–122, 121t, 127–128, 128t
with 11-month-olds, 128–129, 129t
with 12-month-olds, 122t, 122–123
by Barr & Hayne et al., 123–125, 124t
by Carver & Bauer, 127–128, 128t
by Collie & Hayne, 126–127, 127t
demonstrations affecting, 128–129
environmental changes affecting, 130
generalization of responses in, 129–130, 131
by Mandler & McDonough, 128–129, 129t
by Meltzoff et al., 119–123, 121t, 122t
in first year of life, 193–194
by infants, 58, 58n, 71, 115–118
mental activity in, 115–116
recognition response in, 125, 131, 189
representational intent in, 125–126
role-play in, 91
Definitions
of imitation, 55, 79, 189, 275–276, 286, 287, 297, 328
of mimesis, 286–287, 396–398
of mimicry, 223–224, 286, 287
of violence, 248
DeMyer, M., 86
Dennett, D.
cited by Blackmore, 398
cited by Chater, 356
cited by Gil-White, 322, 329, 335, 336
cited by Goldman, 79
cited by Hurley & Chater, 28, 43
Desensitization from exposure to violence, 247, 260
Desimone, R., 72
Devine, P., 213
DeYong, N., 111, 112
Diamond, J., 328
Differential imitation of movement
types, by infants, 70–71
Dijksterhuis, A., 207–220
cited by Huesmann, 261
cited by Hurley, 383
cited by Hurley & Chater, 35–37, 36n, 38–39
cited by Kinsbourne, 171n
commentary by Brison, 363–365
commentary by Litman, 365–368
Disinhibited imitation, 165–166, 172, 203
in entrainment, 200
Disinhibition of aggression after observed violence, 247, 258
Dodge, K., 259, 387
Dolphins, imitation by, 14
Donald, M., 283–300
cited by Chater, 357
cited by Harris & Want, 162n
cited by Hurley & Chater, 6n, 42, 43, 50
commentary by Blackmore, 396–398
commentary by Christiansen, 391–396
Doppelgängers, and phenomenology of infancy, 178–180
Dorrance, B., 191
Dryer, M., 393
Dumbbell-shaped object, unsuccessful separation of, 62–64, 63f, 65n, 89, 139–140
Dunn, J., 93
Durkheim, E., 254
Duval, S., 219

Echolalia in autism, 144
Echolocation, analysis by synthesis in, 169
Echopraxia, 166
Eco, U., 240, 250, 251
Economics
  evolutionary modeling in, 301–303
  signaling in, 240
Edelman, G., 361
Education, beliefs communicated in, 201
Efferent copy, phenomenon of, 188, 188n
Ekman, P., 386
Elderly persons, stereotypes of, 215, 216
Eldridge, J., 243–255
cited by Hurley & Chater, 35, 37, 39, 50
cited by Kinsbourne, 171n
commentary by Comstock, 371–380
Elsner, B., 17, 131n
commentary on Anisfeld, 191–194

Embodiment of shared intentions, 100, 101
Emotions
  basic and nonbasic, 273
  calibration of, 273–274, 280
  contagious, imitation in, 275–276,
  277, 278, 281
  deficits affecting moral development, 280–281
  and expressions imitated by infants, 71
  mirroring of, 41–42
  and moral competence, 267
  understanding of, mirror system in, 6–7
Empathy
  and mind reading, 28, 49
  mirror system in, 6–7, 7n
  and simulation theory, 169
Emulation
  by apes, 20
  in social learning, 14–15, 135–137, 276
Enactive encoding in imitation, 164
Enactive perception, 48–49
Endogenous and exogenous activation of behavior, 100–104
Entrainment
  and analysis by synthesis, 168–170
  covert and selective, 200
  emotional role of, 170
  interactional, in infants, 167, 168
Epstein, W., 181
Equilibria in signaling
  semisorting, 230, 236
  separating or sorting, 230, 240–241
Equivalence between self and other, 55
  and imitation by infants, 57
  as innate characteristic, 74–76
Eron, L., 261, 262, 378
Ethnic conflicts, propaganda affecting, 252
Ethnic signatures, 232
Evolution
and action recognition, 6
cultural, imitation in, 35–46. See also
Cultural change
mimesis development in, 290–294
zone of proximal evolution in
primates, 291
Excitation transfer after observed violence, 258
Exogenous and endogenous activation of behavior, 100–104
Experience affecting mirror neurons, 69–70
Explanatory role of memes, 339–341
Exteroception, and proprioceptive feedback, 72
Eye blinking imitated by infants, 71, 76
Eysenck, H. J., 375
F5 mirror neurons in monkeys, 3
activity in goal-related actions, 89–90
Facial expressions and gestures
and awareness of their own faces, 178–180
imitated by newborns, 30, 81–82, 192–193
as perceptually opaque acts, 11
resemblances in partners, 211–212, 364
Fadiga, L., 209, 382
Failed actions
goals implied in, 62–65, 63f, 89
by infants, reactions to, 75
Fakeable signs in mimicry, 234
False beliefs in others
recognition of, 27, 30
understanding of, 23, 57, 93
Fauconnier, G., 298
Fear reduction in weak behavioral inhibition system, 272
Feldman, M., 319, 330, 340n
Feldstein, S., 168
Ferguson, G., 113
Field, T., 71, 274
Finan, C., 265
First persons multiplied, 29, 49
First-to-third person arguments from analogy, 25, 28, 29
Fisher, L., 271
Flavell, J., 57, 62
Flexibility in relations between means and ends, 6, 33
Fodor, J., 74, 77
Fogassi, L., 164
Folk psychology, 84, 85, 181
innate knowledge in, 74–77, 82
and mental simulation, 95–106
Fontaine, R., 71, 76, 114
Forbes, J., 144
Ford, M., 279
Forehead used to touch box, by infants, 58n, 58–60, 59f
Forward model of motor control, 5
Fowles, D., 257n, 271, 272
Free riding, imitative, 37–38
Freedman, J., 257n, 367n
Frith, C., 66
Frith, U., 66
Frontal area of brain, role in imitation, 5
lesions affecting, 9, 34, 166
Fruits, artificial, in experiments with animals, 19–20
Fudenberg, D., 229n
Gainer, P., 275
Galef, B., 14n, 19, 382
Gallagher, T., 237
Gallese, V.
cited by Brison, 363
cited by Dijksterhuis, 209
cited by Goldman, 80, 89, 90
cited by Gordon, 95–96, 97n, 99, 99n, 100, 101, 105, 106n
cited by Huesmann, 386
cited by Hurley, 385
Gallese, V. (cont.)
cited by Hurley & Chater, 6–7, 12, 13, 28, 29, 32, 48, 49
cited by Kinsbourne, 164, 165
cited by Meltzoff, 69, 73
cited by J. Prinz, 274
Gambetta, D., 221–241
cited by Hurley & Chater, 38
commentary by Litman, 368–371
commentary by Seabright, 398–402
Game theory, 229, 229n
Gaze following by infants, 67–69, 68f
Geen, R., 258, 260
Geldolf, R., 248
Generalization of responses in deferred imitation, 129–130, 131
Genes
inheritance, mutation, and selection of, 318–319
as rational replicators, 306–307
replicator dynamics in
in asexual reproduction, 308–310
in sexual reproduction, 310–312
Genetic evolution. See Biological change
Gerbner, G., 259, 372
Gergely, G.
cited by Hurley & Chater, 20, 23, 31
cited by Meltzoff, 59
cited by Tomasello & Carpenter, 140, 145, 148
Gerth, H., 254
Gestures
facial. See Facial expressions and gestures
imitated by infants, perceptual reversal of movements in, 87, 88
in mimesis, 287
relationship to meaning, 291
rudimentary vocal-gestural system, 292
Gibson, J., 3, 199
Giddens, A., 254
Gil-White, F. J., 317–339
cited by Chater, 356, 359, 362n
cited by Greenberg, 340, 342, 343, 346, 347, 350, 352, 405
cited by Harris & Want, 162n
cited by Hurley & Chater, 21n, 45–46, 50
commentary by Blackmore, 406–409
Gilbert, D., 213
Glass, E., 375
Gleissner, B., 64, 141
Goal-directed behavior, 10
and mirror neuron activity in
monkeys, 89–90
motor plans in, 5
Goals
achieved by imitation, 14
in cultural change, 339
emulated by animals, 15
hierarchies of, 141, 148
high-level mirroring of, 4
implied in unsuccessful actions, 62–65, 63f
of infants, 75
inferred by infants, 62–66, 63f
in selective imitation, 47
shared in cumulative adaptation, 346, 347, 409–411
in technological change, 348
understanding of, and imitative learning, 133–148
Goldman, A. I., 79–93
cited by Gordon, 105
cited by Hurley, 385
cited by Hurley & Chater, 24–27, 28, 30, 32
cited by Meltzoff, 56, 69, 75, 77n
commentary by Millikan, 182–188
commentary by W. Prinz, 180–182
Gopnik, A., 57, 75, 80, 81–85, 98n
Gordon, R. M., 95–106
cited by Goldman, 79n, 80, 85
cited by Hurley, 385
cited by Hurley & Chater, 9, 13, 13n, 27–29, 30, 32, 35n, 49
<table>
<thead>
<tr>
<th>Index to Volume 2</th>
<th>529</th>
</tr>
</thead>
<tbody>
<tr>
<td>cited by Kinsbourne, 169</td>
<td></td>
</tr>
<tr>
<td>cited by Meltzoff, 56, 69, 75, 77n</td>
<td></td>
</tr>
<tr>
<td>cited by J. Prinz, 275</td>
<td></td>
</tr>
<tr>
<td>cited by Sugden, 388n</td>
<td></td>
</tr>
<tr>
<td>Gould, S., 358</td>
<td></td>
</tr>
<tr>
<td>Grasping and reaching actions by infants, 173–178</td>
<td></td>
</tr>
<tr>
<td>Gray, J., 41, 271–272</td>
<td></td>
</tr>
<tr>
<td>Gray, R., 14</td>
<td></td>
</tr>
<tr>
<td>Green, M., 172</td>
<td></td>
</tr>
<tr>
<td>Greenbeard genes, 38</td>
<td></td>
</tr>
<tr>
<td>Greenberg, M., 339–353</td>
<td></td>
</tr>
<tr>
<td>cited by Chater, 356, 357–358, 359, 360, 362n</td>
<td></td>
</tr>
<tr>
<td>cited by Gil-White, 338n</td>
<td></td>
</tr>
<tr>
<td>cited by Harris &amp; Want, 162n</td>
<td></td>
</tr>
<tr>
<td>cited by Hurley &amp; Chater, 21n, 45, 46, 47, 50</td>
<td></td>
</tr>
<tr>
<td>cited by Sugden, 316n, 388n</td>
<td></td>
</tr>
<tr>
<td>commentary on Sugden, 402–406</td>
<td></td>
</tr>
<tr>
<td>discussion by Blackmore, 409–411</td>
<td></td>
</tr>
<tr>
<td>Greenpeace campaign against McDonald’s, 239</td>
<td></td>
</tr>
<tr>
<td>Greenwald, A., 213</td>
<td></td>
</tr>
<tr>
<td>Gross, C., 72</td>
<td></td>
</tr>
<tr>
<td>Gross, L., 372</td>
<td></td>
</tr>
<tr>
<td>Grossberg, L., 246, 247</td>
<td></td>
</tr>
<tr>
<td>Group interactions, language development in, 291, 294</td>
<td></td>
</tr>
<tr>
<td>Guerra, N., 259, 387, 388</td>
<td></td>
</tr>
<tr>
<td>Guilford, T., 230</td>
<td></td>
</tr>
<tr>
<td>Guilt</td>
<td></td>
</tr>
<tr>
<td>as first-order response, 280</td>
<td></td>
</tr>
<tr>
<td>sadness in, 273–274, 280</td>
<td></td>
</tr>
<tr>
<td>Habituation process, desensitization in, 260</td>
<td></td>
</tr>
<tr>
<td>Haidt, J., 280</td>
<td></td>
</tr>
<tr>
<td>Halle, M., 169</td>
<td></td>
</tr>
<tr>
<td>Hallucinations</td>
<td></td>
</tr>
<tr>
<td>autoscopic, 178</td>
<td></td>
</tr>
<tr>
<td>in schizophrenia, subvocalizations in, 172</td>
<td></td>
</tr>
<tr>
<td>Ham, R., 134, 148</td>
<td></td>
</tr>
<tr>
<td>Hamburger, J., 238</td>
<td></td>
</tr>
<tr>
<td>Hamilton, J., 257n, 381</td>
<td></td>
</tr>
<tr>
<td>Hand movements</td>
<td></td>
</tr>
<tr>
<td>imitated by infants, 71, 174–178, 208</td>
<td></td>
</tr>
<tr>
<td>as perceptually transparent acts, 11</td>
<td></td>
</tr>
<tr>
<td>Hanna, E., 58n</td>
<td></td>
</tr>
<tr>
<td>Harbord, V., 245</td>
<td></td>
</tr>
<tr>
<td>Hare, R., 268</td>
<td></td>
</tr>
<tr>
<td>Harris, P. L.</td>
<td></td>
</tr>
<tr>
<td>cited by Donald, 283n</td>
<td></td>
</tr>
<tr>
<td>cited by Goldman, 91, 92, 93</td>
<td></td>
</tr>
<tr>
<td>cited by Hurley &amp; Chater, 4, 5, 20, 21n, 24, 32n, 33–34, 45, 46</td>
<td></td>
</tr>
<tr>
<td>cited by Meltzoff, 57, 62, 64, 77n, 149–162</td>
<td></td>
</tr>
<tr>
<td>cited by J. Prinz, 275</td>
<td></td>
</tr>
<tr>
<td>cited by Sugden, 388n</td>
<td></td>
</tr>
<tr>
<td>cited by Tomasello &amp; Carpenter, 140</td>
<td></td>
</tr>
<tr>
<td>commentary on Meltzoff, 173–178</td>
<td></td>
</tr>
<tr>
<td>discussion by Comstock, 197–199</td>
<td></td>
</tr>
<tr>
<td>Hasson, O., 241</td>
<td></td>
</tr>
<tr>
<td>Hatfield, E., 211</td>
<td></td>
</tr>
<tr>
<td>Hauser, M., 231</td>
<td></td>
</tr>
<tr>
<td>Hayes, C., 134–135</td>
<td></td>
</tr>
<tr>
<td>Hayes, K., 134–135</td>
<td></td>
</tr>
<tr>
<td>Hayne, H., 118, 123–125, 126–127, 129–130, 131</td>
<td></td>
</tr>
<tr>
<td>Head, H., 179</td>
<td></td>
</tr>
<tr>
<td>Head movements imitated by infants, 71, 76</td>
<td></td>
</tr>
<tr>
<td>Head-touch task</td>
<td></td>
</tr>
<tr>
<td>in autism, 144</td>
<td></td>
</tr>
<tr>
<td>imitated by infants, 58n, 58–60, 59f, 138, 140–141</td>
<td></td>
</tr>
<tr>
<td>Heal, J., 80</td>
<td></td>
</tr>
<tr>
<td>Hearold, S., 375, 376</td>
<td></td>
</tr>
<tr>
<td>Heat, 373</td>
<td></td>
</tr>
<tr>
<td>Heimann, M.</td>
<td></td>
</tr>
<tr>
<td>cited by Anisfeld, 111, 112, 114, 115, 119–122</td>
<td></td>
</tr>
<tr>
<td>cited by Meltzoff, 71</td>
<td></td>
</tr>
<tr>
<td>cited by Zentall, 189, 191</td>
<td></td>
</tr>
</tbody>
</table>
Index to Volume 2

Heiser, M., 39
Helpfulness in primed subjects, 214–215
Hempel, C., 184
Henrich, J., 323n, 329, 332, 333, 336, 337, 338
Herman, L., 14
Heyes, C.
cited by Donald, 289
cited by Hurley, 382
cited by Hurley & Chater, 2n, 11–12, 14n, 19, 27n, 30, 50
cited by Meltzoff, 65n
Higgins, E., 213
Higgs, P., 408
High road to imitation, 36, 39, 212–220, 365
activated traits and stereotypes in, 213–217
characteristics of, 217–218
inhibitions in, 218–220
limitations in, 218
self-focus affecting, 219–220
Hirschfeld, L., 335
Hobson, R., 88–89, 144
Hoffman, M., 273, 275, 276, 277
Hogben, M., 375
Holland, J., 361
Holmes, J., 366n
Hommel, B., 209
Hooker, M., 239n
Horner, Victoria, 19
Hospitalism, 168
Hostility in primed subjects, 214
House, T., 270
Huang, C., 65n, 145
Huber, L., 3, 4, 14, 135, 136
Huesmann, L. R., 257–266
cited by Comstock, 378
cited by Eldridge, 247, 254n
cited by Hurley, 385
cited by Hurley & Chater, 35, 37, 39, 40, 42
cited by Kinsbourne, 171n
cited by J. Prinz, 281, 282n
commentary on J. Prinz, 386–388
discussion by Hurley, 380–385
Hull, D., 321
Human development related to imitation, 21–35
Hume, D., 76
Humean assumptions, 9, 11
Humphrey, N., 22n, 57, 77n
commentary on Meltzoff, 178–180
Hunt, G., 14
Hunt, M., 375
Hurley, S., 1–52
cited by Brison, 204, 204n
cited by Claxton, 200
cited by Goldman, 79n
cited by Gordon, 106n
cited by Huesmann, 266n
cited by Kinsbourne, 164
cited by Litman, 366n
commentary on Huesmann, 380–385
Husserl, E., 76
Hypothesis testing in simulation, 101
Iacoboni, M.
cited by Anisfeld, 109
cited by Dijksterhuis, 209
cited by Goldman, 90
cited by Huesmann, 386n
cited by Hurley, 385
cited by Hurley & Chater, 4, 5–6, 8n, 41n, 43, 50, 51n
cited by Meltzoff, 73
cited by Millikan, 188n
Identity

cues of, 231
signaling of, 226–227
theft of, 38, 369–370
Ideomotor theory, 8, 9–11
coordination paradigms in two-choice interference task, 10
induction paradigms, 10
<table>
<thead>
<tr>
<th>Index to Volume 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>interference paradigms, 10</td>
</tr>
<tr>
<td>Imaginary characters invented in role play, 92, 93</td>
</tr>
<tr>
<td>Imitation</td>
</tr>
<tr>
<td>compared to mimicry, 227–229</td>
</tr>
<tr>
<td>compared to simulation, 92</td>
</tr>
<tr>
<td>connection with mind reading, 79–93</td>
</tr>
<tr>
<td>and culture, 35–48</td>
</tr>
<tr>
<td>commentary and discussion on, 363–411</td>
</tr>
<tr>
<td>definitions of, 55, 79, 189, 275–276, 286, 287, 297, 328</td>
</tr>
<tr>
<td>high road to, 36, 39, 212–220, 365</td>
</tr>
<tr>
<td>and human development, 21–35</td>
</tr>
<tr>
<td>importance of, 48–52</td>
</tr>
<tr>
<td>low road to, 35–36, 212, 364</td>
</tr>
<tr>
<td>and mimetic evolution, 328</td>
</tr>
<tr>
<td>and recognition of being imitated, 60–62, 182</td>
</tr>
<tr>
<td>role in aggressive behavior caused by media violence, 258–260, 264–266</td>
</tr>
<tr>
<td>as social glue, 209–212</td>
</tr>
<tr>
<td>and transmission of memes, 339</td>
</tr>
<tr>
<td>true, 14</td>
</tr>
<tr>
<td>as learned means to end, 15</td>
</tr>
<tr>
<td>and understanding of observed actions, 3, 32, 56t, 56–57</td>
</tr>
<tr>
<td>Imitative learning, 133–134</td>
</tr>
<tr>
<td>in animals, 134–137</td>
</tr>
<tr>
<td>in children, 137–146</td>
</tr>
<tr>
<td>Imitative mirroring, 28</td>
</tr>
<tr>
<td>Importance of imitation, 48–52</td>
</tr>
<tr>
<td>Impulsivity, and deficit in behavioral inhibition system, 272</td>
</tr>
<tr>
<td>Inanimate objects</td>
</tr>
<tr>
<td>imitated by infants, 117–118</td>
</tr>
<tr>
<td>infant responses to, 63f, 64, 66, 89, 140</td>
</tr>
<tr>
<td>Induced body movements</td>
</tr>
<tr>
<td>goal-related or intentional, 10</td>
</tr>
<tr>
<td>stimulus-related or perceptual, 10</td>
</tr>
<tr>
<td>Infants. See Newborns and infants</td>
</tr>
<tr>
<td>Inferences</td>
</tr>
<tr>
<td>about traits in others, 213</td>
</tr>
<tr>
<td>in acquisition of memes, 329–333</td>
</tr>
<tr>
<td>from first person to third person, 25, 28, 29</td>
</tr>
<tr>
<td>by infants, in understanding of others, 83–85</td>
</tr>
<tr>
<td>Inhibition of imitation, 9, 34, 218–220</td>
</tr>
<tr>
<td>Inhibitory mechanisms in entrainment, 200–201</td>
</tr>
<tr>
<td>Innate knowledge</td>
</tr>
<tr>
<td>in infant’s “starting-state” theory, 74, 82</td>
</tr>
<tr>
<td>and understanding of self-other equivalence, 74–76</td>
</tr>
<tr>
<td>Intended results, understanding of, and imitative learning, 31–32, 133–148, 195–196</td>
</tr>
<tr>
<td>Intentional mental states, 186–188</td>
</tr>
<tr>
<td>Intentions</td>
</tr>
<tr>
<td>adult and infant views compared, 65</td>
</tr>
<tr>
<td>in induction of imitation, 10</td>
</tr>
<tr>
<td>in infants, 75</td>
</tr>
<tr>
<td>inferred by infants, 62–66, 63f</td>
</tr>
<tr>
<td>of others, embodiment of, 100, 101</td>
</tr>
<tr>
<td>Interactional synchrony, 167–168</td>
</tr>
<tr>
<td>and speech analysis by synthesis, 169</td>
</tr>
<tr>
<td>Interference effect in tasks involving two participants, 10</td>
</tr>
<tr>
<td>Intersubjectivity</td>
</tr>
<tr>
<td>and entrainment, 170–171</td>
</tr>
<tr>
<td>in infants, 166–167, 168</td>
</tr>
<tr>
<td>and mind reading, 30, 49</td>
</tr>
<tr>
<td>Inverse models of motor control, 5</td>
</tr>
<tr>
<td>Invisible gestures imitated by infants, 109–115</td>
</tr>
<tr>
<td>Involuntary imitation, 10</td>
</tr>
<tr>
<td>Isaac, G., 150</td>
</tr>
<tr>
<td>Jacobson, S., 113–114</td>
</tr>
<tr>
<td>James, W., 8</td>
</tr>
<tr>
<td>Jeannerod, M., 383</td>
</tr>
<tr>
<td>Jellema, T., 72</td>
</tr>
</tbody>
</table>
Jenkins, J., 92
Jensen, R., 250
Johnson, J., 380, 385
Johnson, M., 200, 298
Johnson, S., 66
Johnston, L., 214
Joint mimicry, 235
Jones, G., 265
Jones, S. cited by Anisfeld, 112, 115
cited by Elsner, 192
cited by Hurley & Chater, 7n, 11n, 18n, 20, 30, 50
cited by Meltzoff, 71
Jonker, L., 306
Josephson, W., 258, 261
Kang, N., 376–377, 379–380
Kauffman, S., 361
Kawakami, K., 216
Kaye, K., 110
Kendal, J., 408
Kennedian mimicry, 237
Kennett, J., 275
Kessler, R., 237
Kinsbourne, M., 163–172
cited by Gordon, 101
cited by Hurley, 382, 383
cited by Hurley & Chater, 6n, 7, 9, 9n, 34–35, 42, 48, 51n
commentary by Brison, 202–204
commentary by Claxton, 199
Klein, P., 58n, 118, 122–123, 129, 130
Koza, J., 361
Krizek, G., 178
Krug, A., 31
Kubrick, S., 244, 372
Kugiumutzakis, G., 71
Kuran, T., 333
LaFrance, M., 210
Lakin, J., 210
Lakoff, G., 200, 298
Laland, K. cited by Blackmore, 408
cited by Gil-White, 310, 317n, 328, 330, 335
cited by Greenberg, 340n
Landes, D., 328
Language changes in, 359
linguistic symbols learned in, 143
and mimetic communication, 42, 43
as network-level phenomenon, 294
produced by networks of brains, 290–291
relation to imitation, 6, 17–18, 50, 109
scaffolded on mimesis, 292, 294, 298
commentary by Christiansen, 391–396
word-learning studies with children, 143–144
Latent imitation becoming overt, 166
Learning associative sequence model, 11–12
emulation, 135–137
imitative, 133–134
in animals, 134–137
in children, 137–146
observational learning of cognitions, 259–260
social learning, 14–15
in animals, 14
trial-and-error in, 15
amplifying modeled action primes, 16
LeDoux, J., 212n
Lee, A., 88–89, 144
Lefkowitz, M., 262
Legerstee, M., 71, 111, 112
Lego blocks, moving of, 66
Lemke, J., 195
LePage, A., 258
Lepore, L., 213
Levy, B., 215
Lewis, M., 115
Lewontin, R., 358
Lhermitte, F., 9, 9n
 Liberman, A., 169
 “Like-me” recognition, 55–77, 60–65
 as analogical inference, 95, 104–105
 and commonsense psychology, 74–77
 Liking related to imitation, 209–212
 Limongelli, L., 151
 Lip and cheek movements imitated by
 infants, 71
 Litman, H.
 cited by Dijksterhuis, 220n
 cited by Hurley, 384n
 cited by Hurley & Chater, 38, 50, 241n
 commentary on Dijksterhuis, 365–368
 commentary on Gambetta, 368–371
 Lotka-Volterra models, 306
 Low-level imitation in mirroring of
 movements, 5
 Low road to imitation, 35–36, 212, 364
 Lowenstein, D., 265
 Lukianowicz, N., 179
 Lumsden, C., 310
 Lupyan, G., 391n
 Luria, A., 9, 165–166

 Macrae, C., 214
 Mahler, M., 74
 *The Man Who Was Thursday*, 239
 Mandler, J., 118, 127–129, 131
 Manual gestures. See Hand movements
 Mappings
 active intermodal hypothesis, 72–73,
 73f
 from other to self, in novel imitation,
 60, 62
 from self to other, in recognition of
 being imitated, 60–62
 Maran, T., 240
 Maratos, O., 71
 Marcus, J., 110
 Marks acquired as mimic-proof signs,
 232
 Marmosets
 emulation by, 136
 mimicry by, 135
 Marshall-Pescini, Sarah, 19
 Matsusawa, T., 137
 Mattingly, I., 169
 Maurer, D. W., 370n
 McDonald’s, Greenpeace campaign
 against, 239
 McDonough, L., 128–129, 131
 McFarland, C., 333
 McLaughlin, G., 252
 McMahon, A., 394
 McNeilage, P., 170
 McNeill, W., 218
 Means and ends relationship
 distinction between, 15
 flexibility in, 6, 33
 not understood by animals, 31
 reproduced in mimesis, 287, 299
 and structured sequence to acquire
 goals, 15
 Mechanisms of imitation, 2–13
 Media violence, 38, 39–40
 causal links with real-world violence,
 243–249
 causing later aggressive behavior, 260–
 264
 alternative views of, 247, 264, 265,
 266
 in laboratory experiments, 260–261
 in longitudinal studies, 261–264,
 263t
 in one-shot field studies, 261
 role of imitation in, 264–266
 commentary and discussion, 371–385
 and imitation, 50, 202–204, 258–260
 public understanding of, 264–266
 interpretation by audiences, 30, 247–
 248, 250–251
 value positions on, 245–246
 in wartime, 251–253
 Mellars, P., 150
Meltzoff, A. N., 55–77
cited by Brison, 363
cited by Dijksterhuis, 208, 209
cited by Elsner, 192, 193
cited by Gambetta, 227n, 228
cited by Goldman, 80, 81–85, 89
cited by Gordon, 95–96, 98n, 98–99
cited by Harris, 174, 177
cited by Huesmann, 258
cited by Hurley, 382, 385
cited by Hurley & Chater, 2n, 8, 11, 11n, 13, 22, 24, 26, 28, 29, 30, 32, 48, 49
cited by Kinsbourne, 166
cited by J. Prinz, 274
cited by W. Prinz, 181
cited by Tomasello & Carpenter, 137, 138, 139, 140, 144, 145
cited by Zentall, 20, 21–24, 25, 26, 189, 191
commentary by Harris, 173–178
commentary by Humphrey, 178–180
three-stage process in mind reading, 25
Meme theory, 43–47
Memes
as-if rationality of replicators, 44
autonomous, 335
boundaries of, 330–331
brain design affecting, 337
catchiness or contagiousness of, 348, 350–352, 358–359, 360
vacuous and interesting catchiness compared, 351
conformity bias of, 45, 333–334, 335
content bias attractors, 331–332, 335
in cultural change, 356
cultural selection of, 334–336
cultural transmission of, 317–339
cumulative adaptation with imperfect copying, 322–328, 343–348
definition of, 396–398
evaluation of
attractiveness in, 344–346
effectiveness in, 344, 344n, 347
explanatory role of, 339–341
generated by copying mistakes, 339
high mutation rate in, 342
inheritance, mutation, and selection of, 319
innate biases, 331–333, 335
local selection of, 356
mutations in, 319–320
noncontent biases, 333–334, 341, 345, 350, 352–353
prestige bias of, 45, 333–334, 335, 341, 349, 350–351
recurrences of, 334–335
relationship with actions, 309–310
imitation probability in, 313–315
and rational behavior in selection process, 312
selection mechanisms, 46
selfish meme theory, 45, 46, 317, 322, 340, 341, 349, 408
stable skeleton of, and variations in details, 331
transmission of, 45–47
by imitation, 303–304, 328–329, 339
and view of Platonic inferences, 329–333
Memetic drive theory, 336–337, 408
Memetics
Darwinian, 45, 47
Mendelian, 47
Memory
of complex social events, 295
stereotype activation affecting, 215
Mendel, G., views on biological evolution, 355, 359, 362
Mendelian memetics, 47
Mental imitation in role play, 92
Mental rehearsals affecting brain development, 200, 201
Mental simulation. See Simulation
Mental states
activity in deferred imitation, 115–116
equivalence in self and other, 82–85, 185–186
intentional, 186–188
stereotype activation affecting, 215
Merleau-Ponty, M., 100
Milavsky, J., 261, 265, 376
Milgram, S., 36, 214
Miller, D., 249, 333
Miller, L., 265, 385
Milligan, W., 270
Millikan, R. G.
cited by Gordon, 103n
cited by Hurley & Chater, 25n, 26, 29
cited by W. Prinz, 181
commentary on Goldman, 182–188
Mills, C. W., 254–255
Mimesis, 283–300
as analog representations, 284–285
compared to linguistic representations, 284–285
cultural adaptations in, 292
definition of, 286–287, 396–398
event perceptions in, 294–297
evolutionary events in, 290–294
as group cognitive activity, 285
key features of, 288–290
and language development, 42, 43, 292, 294, 298
commentary by Christiansen, 391–396
manifestations of, 287–288
motor systems in, 283, 288, 292–293
 persistence of, 293–294
as reenactments of events, 284, 285, 287
social aspects of, 293, 299
in social groups, 285
in transmission of skills, 284, 287
Mimicry, 38, 38n, 221–241
by animals, 134–135
in autism, 144
Batesian, 227n, 235n
in biology, 223–224
cognitive skills in, 224–225
collective models in, 237–238
commentary and discussion on, 368–371
compared to imitation, 227–229
conjunct cases of, 234–235
cooperative, 238–239
deceptive, 221–241
defensive, 223
definition of, 223–224, 286, 287
failures in, 239
imitative actions in, 228–229
joint, 235
Kennedian, 237
mimic vs dupe and model, 237–238
mimic vs dupe via model, 235–237
mimic vs model via dupe, 237
models, mimics, and dupes in, 223–224, 370
interactions of, 225, 229, 234–239
Müllerian, 227n
negative, 224
predatory, 222–223
protective, 235n
signaling in, 225–226, 229n, 229–230
signs in, 225
transformation into signals, 225–226
systems of, 234–239
types of, 221n, 221–223
unconscious, 234
in zoology, 24
Mind reading. See also Understanding
actions and intentions of others
approaches to, 79–81
and argument from analogy, 25
connection with imitation, 79–93
and constitutive mirroring, 105
Mind reading (cont.)
and construing selves from others, 180–182
and empathy, 49
experimental assessment in monkeys, 5, 5n
Goldman views on, 24–27
imitation as foundation of, 87
inference from first to third person in, 25
Meltzoff views on, 23–24
and rationality, 28, 79
relation to language and imitation in humans, 21–35
and role play, 92–93
and self in other’s “mental shoes,” 80–81, 86, 92
and simulation theories, 24–27, 49, 80–81, 85–93, 169
charge against, 29–30
stages or levels in, 32–33
theory theory, 80–81
criticism of, 81–85
Mirror neurons, 3–4
activation pathways, 102
development affected by experience, 69–70
dysfunction in autism, 90
functional properties of
high-level resonance in, 4
in humans, 3–4
low-level resonance in, 4
in monkeys, 3–4
in imitation, 49, 96
in mimesis, 289
in perception and action, 209, 368
and phenomenon of efferent copy, 188, 188n
role of, 164–165
Mirror systems, 3
and Adam Smith’s theory of sympathy, 388–391
Broca’s area in, 6
in copying of observed results, 32
division of labor in, 5
dysfunction in autism, 26–27
empathic role of, 7
and role of language in imitation, 6
Mirroring responses, 95–97
constitutive, 28, 29, 32, 96
and intentional explanation, 100–104
and mind reading, 105
emotional, 41–42
imitative, 28, 96
Mirrors affecting imitation, 219–220
Mitchell, R., 165
Mithen, S., 150
Model/rival training methods, 18
Modena, I., 151
Moise, J., 257n
Moise-Titus, J., 260
Monkeys
imitation in, 14
not seen in macaques, 3, 4
mirror neurons in
brain areas for, 3, 5–6
experimental assessment of, 4–5
Mood contagion, imitation in, 211
Moore, C., 67
Moore, M.
cited by Anisfeld, 110–115
cited by Brison, 363
cited by Dijksterhuis, 208, 209
cited by Elsner, 192, 193
cited by Gambetta, 227n, 228
cited by Goldman, 82–83, 89
cited by Harris, 174
cited by Huesmann, 258
cited by Hurley, 385
cited by Hurley & Chater, 8, 22, 24
cited by Kinsbourne, 166
cited by Meltzoff, 56, 70, 71, 72, 76
cited by J. Prinz, 274
cited by W. Prinz, 181
cited by Tomasello & Carpenter, 137
Moral and conventional wrongs as distinct concepts, 269–270
emotional consequences of, 279–280
insensitivity to, 281–282

Moral development
commentary on, 386–388
emotional contagion in, 276, 281
emotional deficits affecting, 280–281
first-order concerns in, 276, 280
active, 277
passive, 274–277
imitation in, 41, 267–282
induction in, 277
role models in, 281
sensitivity to moral rules in, 278–279
three stages in, 274–278

Moral rules, sensitivity to, in children, 278–279

Motive, vocabularies of, 254–255

Motocentric theory of perception, 199–200

Motor system
basic adaptive feedback in, 12
compensation for deficits in, 75n
forward models of, 5
inverse models of, 5
in mimesis, 283, 289, 292–293
muscles activated in representation of movement, 5
stereotype activation affecting, 215
Motor theory of speech perception, 169
Mouth opening imitated by infants, 71, 111–112, 114–115

Movements of body, meanings of, 66n, 66–67
and gaze following by infants, 67–69, 68f
Müllerian mimicry, 227n
Murray, J., 264
Müsseler, J., 209

Mutations
adaptive bias in, 326, 326f
cognitive processes affecting, 320
directed, 325–328
genetic, 318–319
maladaptive bias in, 326, 327f
overly strong, 326–327, 327f
in memes, 319–321
selection bias in, 320
Mutual imitation by children, 61
Myowa-Yamakoshi, M., 137

Nadel, J., 61
Nagell, K., 20, 23, 136, 150, 382
Natural Born Killers, 245
Nerlich, B., 394
Neumann, R., 208, 211
Neural system
canonical neurons, 3
comparator system in human brain, 3–4, 5
in mimesis, 288–290
mirror neurons, 3–4. See also Mirror neurons
and neural binding theory, 295
nonsymbolic nature of, 290
in recognition of being imitated, 61–62
in understanding goals and intentions of others, 65–66

Newborns and infants
analogical inferences in, 98–99
corrected imitations by, 72
crying contagion in, 99, 108, 275, 276
defered imitation by, 58, 58n, 71, 115–129, 193–194
differential copying by, 22
differential imitation of movements, 70–71
dyadic interactions, 168
emulation by, 137
enactive coding in, 164
failed actions in, 75
gaze following by, 67–69, 68f
goals and intentions of, 75
goals and intentions inferred by, 62–66
imitated by adults, 11, 27
Observed behavior
action induced by, 9–11
and anticipations of actions, 96–97
and imitative learning of novel actions, 11–12
achievement of goals in, 14
and selective imitation in children
and chimpanzees, 19–20
low-level mirroring of, 4
mirror neuron activity in, 89–90
and priming of muscles needed for imitation, 3, 4
visual and motor memories of, 97
Observed violence
causing later aggressive behavior, 260–264
alternative views of, 247, 264, 265, 266
in laboratory experiments, 260–261
in longitudinal studies, 262–264, 263t
in one-shot field studies, 261
role of imitation in, 264–266
long-term effects of, 259–260
short-term effects of, 258–259
Odling-Smee, J., 317n, 328, 335
Offline processing
in copying of others, 13
in mind reading, 29
in representations of others, 9
and simulated outputs, 24, 29, 49–50
and thinking about thoughts, 26
Ohta, M., 86–87
O’Kane, M., 252
O’Neal, E., 258
Online representations of others, 9
“Oops” in unsuccessful actions
affecting imitation, 31, 33, 140, 145, 158–159
with marble dropped through tube arms, 156
as social marking of mishaps, 158–159, 195
in trap-tube task, 152

Newborns and infants (cont.)
imitation by
acquired in stages, 22–24
of hand movements, 174–178, 208
of head movements and eye blinking, 76
of novel acts, 57–60, 58n, 59f
uncertain evidence for, 11, 30
and understanding other minds, 56t, 56–57
inferences in understanding of others, 83–85
intersubjectivity of, 166–167, 168
mapping of their own bodies and faces, 178–180
mimicry by, 137
Piaget’s timetable of development in, 107–131
plasticity of brain in, 291
reactions to inanimate devices, 63f, 64, 66, 89, 140
recognition of being imitated, 60–61
self-imitation in, 171–172
“starting-state” nativism in, 74, 82
testing behavior in, 61
understanding of intentions, 31–32, 56t, 56–57
development of, 147t
understanding of self-other, 82
Nietzsche, F. W., 76, 180, 180n
Noë, A., 48–49
Normative beliefs for problem solving, observational learning of, 250
Nöth, W., 240
Novel acts
generated in mimesis, 288
imitated by infants, 57–60, 58n, 59f
implications for theory, 59–60
imitative learning of, 11–12
and achievement of goals, 14
Opaque acts not seen by their agent, imitation of, 11
Orangutans, mimicry by, 134–135
Overt versus covert imitation, 163

Paik, H.
cited by Comstock, 376, 378, 379, 380
cited by Huesmann, 259, 260, 261, 266
cited by Hurley, 39, 385

Parietal area of brain
in humans, role in imitation, 5
in monkeys, 3
right inferior lobe in recognition of being imitated, 61–62

Parker, James, 202

Parsing of behavior in program imitation, 17

Partial imitation in autism, 87

Partners, lifetime, facial resemblance of, 211–212
Pascual-Leone, A., 200, 383
Pasteur, G., 227n, 234, 237n
Patrick, C., 272
Paulin, M., 168
Pennington, B., 87, 88, 90, 91
Pepperberg, I., 6n, 14, 17–19, 33n, 50

Perception
action modulation through, 9–11, 48–49
common coding of, 8, 9, 11, 49
matched in mimesis, 288, 289
mirror neurons in, 209
relationship of, 48–49
and shared circuits hypothesis, 12–13
ascribed to others, 66–69
implications for theory, 69
bias in, 200–201
enactive, 48–49
and imitation induction, 10
motocentric theory of, 199–200

Perception of events
batched into episodes, 296
boundaries of events in, 296
integration of inputs in, 295–296
and mimetic representations, 294–297
and storage in memory, 296–297
Perceptually opaque acts, imitation of, 11
Perceptually transparent acts, imitation of, 11
Peretti, J.-F., 243
Perner, J., 57, 80
Perrett, D., 72
Persuasion, entrainment in, 170–171

PF mirror neurons in monkeys, 3
Philo, G., 249, 250, 252, 383
Philosophy in study of imitation, 51
Piaget, J.
cited by Elsner, 191, 193, 194
cited by Hurley & Chater, 30
cited by Meltzoff, 58, 74, 76
cited by Tomasello & Carpenter, 134
timetable of infant development, 107–131
with deferred imitation, 115–118
with imitation of invisible gestures, 109–115
Pickering, M. J., 6n, 50
Pitcher, T., 208

Plasticity of brain, importance of, 291
Plato, 172

Platonic inferences in acquiring memes, 329–333
Plotkin, H., 317n, 328
Politeness in primed subjects, 214

Pornography, and sexual violence, 250
Positron emission tomography
in processing goals of actions, 65–66
in recognition of being imitated, 61–62
Post, R., 371n
Poulin-Dubois, D., 144

Prefrontal cortex
lesions affecting imitation, 9, 165–166
motor responses in, 169
prefrontal lobe, medial, role in detecting intentions of others, 66
Premotor cortex, mirror neurons in, 209
Prestige-biased memes, 45, 333–334, 335, 341
Preston, S., 277, 388n, 389
Pretend states, and attempted replication in simulation theory of mind reading, 80–81
Pretending, role play in, 91–93
Price, G. R., 302
Priming
and activation of stereotypes or traits, 213–217, 365
in animals, 15
and behavior in human adults, 36
in copying, 15, 32
and effects of observed violence, 258
and imitation of gestures, 10
modeled action primes amplified by trial-and-error learning, 16
Prinz, J. J., 267–282
cited by Hurley, 383
cited by Hurley & Chater, 40–42, 50
commentary by Huesmann, 386–388
Prinz, W.
cited by Dijksterhuis, 209, 209n
cited by Gordon, 97n
cited by Hurley & Chater, 2n, 8, 8n, 9–10, 27, 48, 49
cited by Moore, 72
cited by J. Prinz, 277
commentary on Goldman, 180–182
Processing techniques learned by animals, 16
Professors, stereotypes of, 215, 367n
Program-level imitation by animals, 16–17
Projection, and imitation by infants, 57
Propaganda
purpose of, 251–252
resistance to, 252
Proprioceptive feedback in exteroception, 72
Psychology, commonsense. See Folk psychology
Psychopaths
deficits in nonmoral emotions, 50, 270–271
ersors in mazes and card sorting tasks, 270–271
impulsivity in, 271
moral blindness in, 40–41, 267–269
reduced inhibition of violence in, 269–272
weak behavioral inhibition system in,
271–273
_Pulp Fiction_, 249
Quail, Japanese, 190
Quine, W., 26, 183, 184
Radke-Yarrow, M., 276
Rakoczy, H., 143
Ratchet effect
in imitation, 20–21, 34, 160
in tool use, 150
Rational-choice theory, 302–303
and relationship between replicators and actors, 307–310
and selection through imitation, 303–305
Rationality
commentary by Greenberg, 402–406
commentary by Seabright, 398–402
and imitation, 43
in memetic replicators, 44
and mind reading, 28
selected through imitation, 303–305
theory of imitation–mind reading connection, 79
Rationalizations, and vocabularies of motive, 254–255
Ratner, H., 31
Rawlins, J. N. P., 5n
Reaching and grasping actions by infants, 173–178
Reciprocal behavior by children, 142–143
Recognition of being imitated, 60–62, 182
implications for theory, 62
in infants, 60–61
and neuroscience findings in adults, 61–62
Recognition response in deferred imitation, 131, 189
Reed, G., 178–179
Reese, S., 246
Reflexivity, and alterations in social practices, 254, 255
Rehearsals, mental, affecting brain development, 200, 201
Reiner, R., 265
Reissland, N., 71
Religion, entrainment in, 170
Replication
abstract model of, 306
in cultural transmission, 321–322
exact copies in, 321
failure in copiers, 323n, 324
rest point in, 306, 312
Replicators
memetic, 44
as-if rationality of, 44
causal loops in, 44–45
rational, 306–307
relationship with actors, 307–310
in asexual reproduction, 308–310
imitation probability in, 313–314
mutual imitation in, 312–315
in sexual reproduction, 310–312
Representational activities
and cognitive and social functions of imitation, 108
evolution in infants, 106
Reverse activation of sensorimotor links between actions and observations, 12–13
Rhodes, R., 265
Rhythms of behavior shared in entrainment, 167–168
Rice, G., 275
Richerson, P.
cited by Gil-White, 319, 325, 329, 333, 335, 336, 337
cited by Greenberg, 340, 340n, 348
cited by Hurley & Chater, 45
Riggs, B., 238
Ritual, mimesis in, 299
Rizzolatti, G.
cited by Brison, 363
cited by Dijksterhuis, 209
cited by Goldman, 89
cited by Huesmann, 258, 386n
cited by Hurley, 385
cited by Hurley & Chater, 3–4, 8n, 30, 32, 41n, 48, 51
cited by Kinsbourne, 164
cited by Litman, 368, 369
cited by Meltzoff, 56, 69, 73
cited by Sugden, 388n, 389
Roberts, M., 359
Robinson, J., 274
Rogers, S., 276
cited by Goldman, 87, 88, 90, 91
cited by Meltzoff, 75n
cited by Tomasello & Carpenter, 144
Role models in moral development, 281
Role play
deferred imitation in, 91
as extended imitation, 27, 91–92
imaginary characters in, 92, 93
mental imitation in, 92
projection of role onto props in, 91, 92
Role reversal imitation, 142–143
Rolls, E., 72
Rosen, A., 270
Rosenthal, R., 261, 378
Rothbart, M., 272, 273
Rudeness in primed subjects, 214
Russell, J., 145
Russon, A., 16n, 58, 110, 136
Sadness
deficit in weak behavioral inhibition system, 272
as form of regret, 277, 278
in guilt and shame, 273–274, 280
and reparative behavior in childhood, 274, 278
Sagi, A., 275
Sally, D., 388n
Sander, L., 167
Saussure, F., 290
Saving Private Ryan, 253
Schaller, J., 71, 111, 112
Schalling, D., 270
Schank, R., 331
Scharrer, E., 372, 374, 377, 378, 380n
Scheier, M., 219
Schemas about hostile world, observational learning of, 250
Schick, K., 149
Schizophrenia, hallucinations with subvocalizations in, 172
Schmidt, H., 238
Schwebel, D., 92
Scrambled sentence task for primed subjects, 214, 215
Scripts for problem solving, observational learning of, 250
Seabright, P., 45, 241n, 316n, 388n
commentary on Sugden and on Gambetta, 398–402
Selection, and cumulative cultural adaptations, 45, 321, 325, 327–328, 329
Selective imitation, 37–38
by children, 19–20, 33, 34, 151–162, 197–198
marble dropped through Y-tube in, 155–158
in trap-tube task, 33–34, 151–155
by chimpanzees, 19–20, 34
and cultural progress, 45
development of, 34
goals in, 47
in tool use, 151
Self
partitioning of, 103n, 103–104
placed in other’s “mental shoes,” 80–81, 86, 92
Self-consciousness, aversive, 273–274
Self-correction of mistakes, demonstration of, 159–160
Self-focus, imitation inhibited in, 219–220
Self-imitation, 171–172
autism affecting, 88–89
Self-other similarities or distinction, 29–30, 32–33, 49, 55
analogy of, 98–99
congruence in, 61, 62
divergence in, 57
and imitation by infants, 57
in infants, 23–24
innate sense of equivalence in, 74–76
and mapping from other to self, 60, 62
and mapping from self to other, 60–62
in mind reading, 30
neural mechanisms in, 7–8
in shared circuits hypothesis, 13
understood by infants, 82
Selfish genes, 306, 340
Selfish memes, 45, 46, 317, 322, 340, 341, 349, 408
Sellars, W., 26, 183, 184–185
Semiotics, and study of mimicry, 230–234, 240
Sensorimotor functioning
in infants, 107–108
and reverse activation of links between actions and observations, 12–13
Sensory deficits, compensation for, 75n
Sequence learning
associative, 11–12
structured sequence to acquire goals, 15
Sergent, J., 72
Sexual violence, pornography related to, 250
Shame
as first-order response, 280
sadness in, 273–274, 280
Shared circuits hypothesis, 12–13
Shared manifold hypothesis, 7, 29, 32, 100
and empathy, 28
and shared circuits hypothesis, 12–13
Shared processing of actions, 48–49
techniques learned by animals, 16
Shepard, R., 169
Shoemaker, P., 246
Siddiqui, A., 137
Sigafoos, A., 112, 114, 115
Signaling
cheating signals in animals, 241n
corrupt signals in, 236–237
in economics literature, 240
honest signals in, 241
of identity, 226–227
Signaling theory, 229n, 229–230
Signatures
constellation of, 232
ethnic, 232
sharing of, 227
as signs of identity, 226
Signs
cues in, 231
fakeable, 234
marks in, 232
semiotic definitions of, 230–234
symbolic, 233
Silence of the Lambs, 268
Similarity and imitation, 2, 2n, 8
Simulation
compared to imitation, 92
as offline imitation, 49–50
role-play in, 27
Simulation theory, 180–181
and analysis by synthesis, 168–169
cmpared to theory theory, 182–188
imitation–mind reading connection in,
26–27, 49, 80–81, 85–93
charge against, 29–30
by Goldman, 24–27
by Gordon, 9, 27–29
Skin heads, stereotypes of, 216–217
Smith, A., 76
theory of sympathy, 41–42
commentary by Sugden, 388–391
Smith, I., 144
Smith, J. M., 302
Smith, P., 25n
Smith, S., 364
Social-cognitive structures, observational
learning of, 259–260
Social context
in benefits of imitation, 209–212
in complex perceptions of events, 295–296
and high road to imitation, 36
imitation in, 207–220
commentary and discussion, 363–368
imitative entrainment in, 34–35, 170–171, 200–201
of language development, 291, 294
in markings of mishaps, 158–159
of mimetic activity, 285–286, 293, 299
in observational learning of scripts, 250
in perception affecting action, 10–11
priming affecting human behavior, 36
of representational imitation, 108
stereotypes activated in, 213
for vocabularies of motive, 255
Social learning
in animals, 14
in autism, 144
emulation in, 14–15
imitation in, 133–134
stimulus enhancement in, 14
Socialization
entrainment affecting, 170
media violence affecting, 39–40
Socialization (cont.)
propaganda affecting, 252
and reactions to violence, 249–255
Sondheim, S., 255
Speech
analysis by synthesis, 169–170
covert imitation in, 169
and interactional synchrony, 169
entrainment of, 167–168
freedom of, 203
motor theory of comprehension in,
169
Spence, A., 229n
Sperber, D.
cited by Gil-White, 317n, 319, 320,
321, 324, 325, 327, 329, 331–332,
335
cited by Greenberg, 342n
Spiegelman, A., 233
Spielberg, S., 253
Srull, T., 214
Steinfeld, J., 264–265
Stereotypes, social, activation of, 213,
367, 367n
multiple stereotypes in, 218
priming methods affecting, 213–217
Stern, D., 166
Stevens, D., 273
Stevens, K., 169
Stevick, R., 394
Stimulus enhancement
in animals, 15
in social learning, 14
Stone, O., 245
Stone, T., 25n
Strack, F., 208, 211
Strawson, P., 28
Street, J., 250–251
Success as criterion in selection process,
304–305
Sugden, R., 301–316
cited by Hurley & Chater, 21n, 41–42,
43–45, 50
cited by J. Prinz, 282n
commentary by Greenberg, 402–406
commentary by Seabright, 398–402
discussion of Adam Smith’s theory of
sympathy, 388–391
Sullivan, M., 115
Superior temporal sulcus in monkeys,
mirror neurons in, 3
Supramodal representation of acts in
active intermodal mapping, 72, 73f,
75n
Sutker, P., 270
Symbolic behaviors learned by infants,
143
Symbolic signs in mimicry, 233
Symbols, evolutionary emergence of,
290–291
Synchrony, interactional, 167–168, 200,
201
and speech analysis by synthesis, 169
Table touching by children, understand-
ing of goals in, 141
Taylor, L., 257n
Taylor, M., 62, 92–93
Taylor, P., 306
Tec, N., 232
Technological change, explanation of,
347–348
Teenage violence, media affecting, 244–
245
Temper tantrum, deferred imitation of,
116, 126
Tennis serve example of cumulative
directional change, 323–327, 329,
343–346
Testing behavior observed in infants,
61
Theory of mind, 56
and role of medial prefrontal lobe, 66
and simulation theory, 169
and understanding goals and inten-
tions of others, 62
Theory theory, 180–181
c ompared to simulation theory, 182–188
of imitation–mind reading connection, 80–81, 86
 criticism of, 81–85
for self-knowledge, 24–27
Thinking about or perceiving an act,
and instigation of that action, 29, 38

Thomas, S., 260
Thompson, D., 145
Thorndike, E., 19
Thornton, W., 379
Thoughts
about other minds, 26
and feelings of self and other, divergence of, 57
nature of, 26
Tiller, F., 239n
Tirole, J., 229n
Tomasello, M., 133–148
cited by Gil-White, 329
cited by Gordon, 95
cited by Hurley, 95
 cited by Hurley & Chater, 19, 20, 21, 22, 22n, 23, 23n, 30, 31, 32, 38
cited by Meltzoff, 56
cited by J. Prinz, 276
cited by Seabright, 399
commentary by Claxton, 194–196

Tongue protrusion matched by
neonates and infants, 70–72, 109–115, 192–193
at 6–12 months, 110
as arousal response, 112, 114, 115, 191
side modeling of, 112–114
up to 6 months, 114–115
Tooby, J., 333, 334

Tool use
by chimpanzees, 151
historical aspects of, 149–151, 197
imitative, development of, 34, 149–151

transmission by selective and
nonselective imitation, 151
Toro, M., 319
Toth, N., 149
Towel manipulation, deferred imitation
of, 116–117
Toy extraction from tube, learning of,
33–34
Training methods, model/rival technique in, 18
Traits inferred in others, 213, 226n
Transmission of skills
mimesis in, 284, 287, 299
and rehearsed actions becoming automatic, 288
Trap-tube apparatus for testing 2- and
3-year-olds, 33–34, 151–155
Trevarthen, C., 166, 200
Trial-and-error learning, 15
amplifying modeled action primes, 16
in animals, 15
True imitation, 14
as learned means to an end, 15
Tulloch, Robert, 202
Turiel, E., 269, 279
Turkewitz, G., 112
Turner, M., 298
Two-action experiments in animal studies, 15–16, 19

Uleman, J., 213
Ullstadius, E., 111, 112
Understanding actions and intentions of others
affecting imitation, 3, 4, 32
goals and intentions in, 62–66, 63f
imitation affecting, 56t, 56–57
lacking in autism, 75
and “like me” hypothesis, 56–57, 60–65
mirror system in, 6
and perception ascribed to others, 66–69, 68f
Understanding actions and intentions of others (cont.)
in recognition of being imitated, 60–62

Unsuccessful actions
copied by infants and children, 31–32
and deliberate self-correction, 159–161, 198
goals implied in, 62–65, 63f, 89
social marking of, 158–159

Unwanted imitation
in arousal, 166
becoming overt, 166

Valenti, J., 265
Valliant, D., 243

Value positions
propaganda affecting, 252
and views on media violence, 245–246, 250

van Baaren, R., 212, 220
van Knippenberg, A., 36n, 215, 217, 219
Varela, F., 200

Video game violence, imitation of, 202–203

Viki (chimpanzee), mimicry by, 134–135

Vinter, A., 112, 174

Violence. See also Observed violence
definitions of, 248
imitated, 37, 202–204
responsibility for, 35
in media, 38, 39–40. See also Media violence
multicausal connections with, 248–249
sexual, pornography related to, 250
social contexts affecting reactions to, 249–255

Visalberghi, E., 151, 197, 198

Vocabularies of motive, 254–255

Voelkl, B., 3, 4, 14, 135
Voigt, L., 379

von Hofsten, C., 137

von Humboldt, W., 109

von Uexkull, J., 199
Vygotsky, L., 201

Wallraff, G., 238

Want, S., 149–162
cited by Hurley & Chater, 20, 20n, 33–34, 45, 46
cited by Meltzoff, 64
cited by Tomasello & Carpenter, 140

commentary by Comstock, 197–199

Wartime violence
propaganda affecting, 251–252

Waugh, E., 402
Webster, P., 243
Weibull, J., 305f
Weir, A., 14
Weitzman, L., 232
Wellman, H., 57, 80

Whiten, A.
cited by Goldman, 88
cited by Harris & Want, 150, 162n
cited by Hurley, 385
cited by Hurley & Chater, 2n, 14, 18n, 34
cited by Meltzoff, 58
cited by Tomasello & Carpenter, 19–20, 31, 134, 136, 146, 148

Wicklund, R., 219
Wilkins, J., 320, 321
Williams, B., 380
Williams, G. C., 320, 343
Williams, J., 90, 165, 385
Wilson, E., 310
Wilson, J., 246, 247
Wilson, S., 246, 247
Winter, L., 213

Wohlschläger, A., 141
Wolf, D., 92
Wolff, P., 112
Wood, W., 375
Woodward, A., 176, 177–178
Woodworth, R., 181
Word-learning studies with children, 143–144
World Trade Towers destruction, media coverage of, 253
Wrangham, P., 168
Wright, R., 328
Wright, V., 234
Wyer, R., 214
Wyrwicka, W., 258
Youngblade, L., 93
Youth violence, media affecting, 244–245
Zahavi, A., & Zahavi, A., 229n
Zahn-Waxler, C., 274, 276, 390
Zajonc, R., 211, 275
Zantop, Half and Susanne, 202
Zentall, T., 14n, 131n, 135
commentary on Anifeld, 189–191
Zillmann, D., 258
Zone of proximal evolution, 291