## Index

Alive	Biology, intuitive, 72, 161, 188–190
concept of (see Living thing)	Block, Eliza
constraining inductive projections,	concept of death, 26-27
150-159	concept of growth, personal identity,
introductory questions, 25-26	65-68
meaning of word "alive," 16-18, 25-26,	Blood, 46-48
148, 182	Bodily organs, 42-51. See also Patterns
Anglin, J., 18, 73, 78	of attribution
Animal, 72-76, 89, 183, 186-187	Bodily processes, 43-51, 54-69, 184
concept of animal constraining inductive	Bohan, J. B., 67
projection, 104-108, 118, 143-146, 183	Bulluck, M., 16, 194
meaning of word "animal," 13, 73, 140,	
183	Carter, R., 149
as ontologically basic, 166-168	Category error, category mistake, 12, 163
Animism. See Childhood animism	biological predicates, 166-169
Anthony, S., 60	"heavy" and "light," 170
Anthropomorphic traits, 21, 73	Causation, 15-16, 193-194. See also
Appearance-reality distinction, 11,	Intentional causality; Mechanical
178–179	causality
Application of definition, 75, 85–86,	Characteristic features, 176
98-100	Chi, M., 1, 3, 186
Aristotelian mechanics, 5	Childhood animism, 10, 15–40
Asymmetry of projection, 128, 134,	Circulatory system, 46–48. See also
135–139, 145, 159, 185, 187, 195	Patterns of attribution
Attribution patterns. See Patterns of	Classical view of concepts, 19–20
attribution	Clement, J., 1, 7
Babies. See Patterns of attribution;	Clinical interview
Reproduction	what is alive, 16-17, 20-22, 23-26, 35
Baillargeon, R., 13, 16, 191–192, 194	death, 61–65
Behrend, D., 18, 74, 78, 107–108	reproduction, 54–60
Bernstein, A. C., 54–60	Coalescence, 5–6, 197
Biological explanation, 41, 72, 188–189,	animal and plant, 189, 199
194	natural and violent motion, 5
Biological knowledge, 41, 71, 76–77,	Comparison to exemplar, comparison to
82–83, 96–98, 109–110, 134, 139, 147,	people, 75, 86–87, 98–100, 120–125
160	people, 75, 65 67, 76=160, 120=125
•••	

Index 224

Father, role of, in procreation, 57–60

Flavell, J., 11, 13, 178, 194 Conceptual change, 5-6, 189-190, 197-199 Foundational concepts, 193 Fraiberg, S., 42-43 coalescence, 5-6, 197, 199 (see also Coalescence) Galilean mechanics, 5 differentiation, 5-6, 197-199 (see also Gelman, R., 13, 14, 16, 74, 78, 107-108, Differentiation) ontological core, 6 (see also 191-192, 194 Gelman, S., 12, 171-173 Ontologically basic categories) Gender, 51-54 property reanalyzed as a relation, 197 Gillert, E., 42-48, 50 Conceptual combination model, 141 Conscious criterion for life, 35-39 Glaser, R., 1, 3, 186 Goldman, R. J., and Goldman, J. D. G., Constraints on induction, 194-195 54-60 Container theory, 48 Golgi, 148-158 Contento, I., 44 Goodman, N., 195-197 Cowan, P. A., 54-60 Gricean implicature, 139 Crider, C., 47-48 Growth, 65-69 Crossing patterns, 120-124 Guardo, C. J., 67 Damon, W., 53 Heart, 46-58. See also Patterns of Death, 26-28, 60-65Deductive inference, 75, 83-85, 98-100, attribution Human behavior, 69. See also 192 - 193Psychology Defecation, 46 Human body Dennis, W., 28 container theory, 48 Density, 169-170, 190-191 Differentiation, 5-6, 197-199 insides, 42-48 (see also Patterns of attribution) alive-dead and alive-inanimate, 25-29, most important part, 43 attribution patterns, animal properties, 79-82, 94-96, 116-118 Impetus theory, 7 Inductive projection, 8-9, 113-116, 161, average velocity and instantaneous 185 velocity, 5 from animal and plant, 149, 155-156 heat and temperature, 198-199 constraints on, 195-197 intuitive biology and intuitive and natural kind terms, 171-173 psychology, 139, 180 from single animal or plant, 152-155 mind and brain, 50 size, weight, and density, 170, 198-199 from two animals, 141-145, 156-158 Information processing model, 75, whole body and internal parts, 98-102, 108-109, 111-113, 125, 47-48 146-147, 185 Digestion, 43-46, 47. See also Patterns conceptual combination model, 141 of attribution guessing model, 76, 101–104, 111–112, Diverging patterns, 120-124 Dolgin, K., 18, 74, 78, 107-108 Model Type I, 75 (see also Deductive Domain general change, 190 Domain specific change, 190-191 inference) Model Type II, 75 (see also Application Emmerich, W., 52 of definition) Model Type III, 75 (see also Essence, 174-175 Comparison to exemplar, comparison Explanation of development, 199-200 to people) Two-stage model, 141 Familiarity, 88

Inhelder, B., 169-170, 190-191
Initial state, 200
Innate quality space, 104-108
Insides. See Human body
Intentional causality, 15, 41, 69-70, 189-190, 193-194
Introductory questions. See Alive
Intuitive theory. See Biology; Mechanics; Psychology

Johnson, C. N., 44, 48-51 Justifications for attribution of animal properties, 85-87 for attribution of life, 20-21, 29-33

Keil, F., 12, 151, 163-171, 175-179, 196-197
Klayman, J., 36
Knowledge restructuring, 3, 5, 71, 135, 139, 161, 186-190
strong, 5, 187-190 (see also Theory-change)
weak, 5, 186-187 (see also Novice-expert shift)
Kohlberg, L., 52
Koocher, G. P., 61-64
Kuhn, T., 4, 194

Larkin, J., 3
Laurendeau, M., 11, 17-18, 20-22
Living thing, 10, 15-40, 182, 186-187
constraining inductive projection, 148-149, 150-159
as ontologically basic category, 168

McCloskey, M., 3, 7
Mapping problem. See Semantic problem
Markman, E., 12, 171–173
Matching patterns, 120–124
Maternal object, 151
M-constraint, 164, 169, 196–197
Meaning. See also Semantic problem
classical view, 11
Mechanical causality, 15–16, 193–194
Mechanical monkey, 88, 104–108
Mechanics, intuitive, 7, 200
Meck, E., 18, 74, 78, 107–108
Mental acts, 49–51. See also Patterns of attribution
Mind, 50–51

brain, 49-51 digestion, 44 mechanics, 7 reproduction, 59 Model. See Information processing model Mother, role of, in procreation, 57-60

Misconceptions, 1-3

Nagy, M. H., 47, 60-64 Natural kind, 171, 174-175 "atom" as a natural kind term, 175 "raccoon" and "skunk" as natural kind terms, 175-178 Nervous system, 48-51. See also Patterns of attribution Novice-expert shift, 1-3, 7, 186-187, 192

Omentum, 111, 114, 118–119, 141
Ontologically basic categories, 162–163, 177–178. See also Category mistake animal as, 167–168, 178
and intuitive theories, 169, 171
living thing as, 168, 170, 182
person as, 163
physical object as, 163, 170
Operational thinking, 192–193. See also
Stages of development
Ordering of the animals, 94
Origin of babies, 54–57

Parallel patterns, 120-124 Patterns of attribution alive, 23-25, 38-39 animal properties: eating, breathing, thinking, having a heart, having bones, having babies, sleeping, 77-78, 79, 89-96, 116-118, 125, 185 golgi, 149-158 mechanical monkey, 106-108 role of familiarity, 88 spleen and omentum, 118-135, 142-145 talking and laughing, 108-109 underattribution, 89-94, 101, 116 Perceptually bound, young children as, 173 Peripheral animals. See Ordering of the animals Person, 69, 183-184 as mammal, 83, 94, 139, 187 as prototypical possessor of animal properties, 104, 126-135

Personal identity, 65-69

Index 226

Piaget, J., 11, 13-14, 20, 35, 39, 65-66, 190-194. See also Childhood animism; Stages of cognitive development Pinard, A., 11, 17-18, 20-22 Plant, 33, 149-156 Predicate, 163 Problem solving, 1, 186 Projection. See Inductive projection Prototypicality, 134. See also Person as prototypical animal Psychology, intuitive, 41, 69-70, 173, 188-190, 200 Putnam, H., 19, 175

Quine, W. V. O., 19, 104

Raccoon, 175-180 Rees, E., 13, 186 Reorganization. See Knowledge restructuring Reproduction, 54-60. See also Patterns of attribution Research methods, 8-12. See also Appearance-reality distinction; Category error; Clinical interview; Inductive projection; Patterns of attribution Resistance to training, 51, 191–192 Respiratory system, 47-48. See also Patterns of attribution Restaurant script, 201 Restructuring. See Knowledge restructuring Rips, L., 113-114, 136 Rosch, E., 19 Russel, R. W., 28

Safier, G., 61
Semantic problem, 18, 182
meaning of "alive," 18–19, 28–29, 35, 140, 148–149, 182
meaning of "animal," 73–74, 140
Shultz, T., 16, 194
Similarity, 1, 3
to exemplar reasoning, 75
between people and animals, 76, 105–108, 111–112
Tversky's model of, 136–138, 194–195
Single criteria definitions. See Classical view of concepts
Size, 169–170

Skunk, 175-180, 184 Smith, C., 45, 102-104, 112, 151, 169-170, 192, 199, 201 Sommers, F., 164 Spanning relation, 163 Spelke, E., 18, 74, 78, 107-108 Spleen, 111, 114, 118-119, 141 Stages of cognitive development, 13-14, 70 - 71concept of life, 17-35 concrete operational thought, 13, 70, egocentric-nonegocentric shift, 13 formal operational thought, 70 preoperational thought, 13, 70, 190 Stomach, 44 Strong restructuring, 5-6, 187-188 Aristotelian to Galilean mechanics, 5 emergence of intuitive biology, 188-190 Structural constraint on concepts, 164, 196-197

Term, 163
Theory, 4-5, 200-201
Theory change, 4
Aristotelian to Galilean mechanics, 5
and conceptual change, 197-199
and meaning change, 174-175
and ontological development, 169-171, 197
Theory emergence, 6, 70, 187-190
Thompson, S. K., 52
Training, failure of. See Resistance to training
Tversky, A., 136-138, 194-195
Two-stage model, 141

Underattribution. See Patterns of attribution

Vitamins, 45 Voyat, G., 65-66

Weak restructuring, 5-6, 186-187. See also Knowledge restructuring;
Novice-expert shift chess, 6
Weight, 169-170, 190-191
Wellman, H., 44, 48-51
Wiser, M., 7, 45, 151, 169-170, 198-199, 201
Wittgenstein, L., 19