INDEX

Achievement motivation trait, 76
Adams, John, 120
Adaptation, 36, 41; theory of emergence and, 52–53. See also Complex adaptive systems
Adaptive Markets Hypothesis (Lo), 42
Adler, Mortimer J., 175n4 (chap.7)
Aesop’s investment axiom, 125–126
Aesthetics, 85–86
Against the Gods (Bernstein), 130
Age as risk factor, 75
Amazon.com, 92–93, 174n9
“Analysis of Economic Time Series, The” (Kendall), 20
Analytical reading, 111–112, 117
Anderson, Phil, 63
“A New Interpretation of Information Rate” (Kelly), 134
Anthropology, 49
Aristotle, 14, 16
Arrow, Ken, 36, 145
Arthur, Brian, 35–36, 37–38, 63
Artificial neural networks, 7
Asch, Solomon, 60–61
Auguste Dupin books (Poe), 122
Bachelier, Louis, 21, 24
Bak, Per, 61–63
Barber, Brad, 73–74
Bayes, Thomas, 130–132
Bayes’s theorem, 131–132, 150
Beat the Dealer (Thorp), 135
Beeman, Richard, 4–5
Behavior: crowd, 56–57; emergence and group, 55–56, 57–59
Behavioral finance, 68–69, 133
Behavioral inefficiency, 40, 42
“Behavior of Stock Price, The” (Fama), 22
Beliefs: pragmatism and, 97–98, 99–102; systems of, 78–79
Believing Brain, The (Shermer), 79
Bell, Don, 107
Benartzi, Shlomo, 69–71
Berkshire Hathaway, 71–72, 139
Benjamin, Isaiah, 149–150
Bernoulli, Jacob, 130
Bernstein, Peter, 20, 130, 145
Biological ecology, 39
Biology, 26–44, 159; complex adaptive systems and, 35–44; evolution and, 26–35
Birkhoff, Garrett, 10
Black, Fischer, 80
Black Swan: The Impact of the Highly Improbable, The (Taleb), 143–144
Blind Man’s Bluff (Sontag and Drew), 172n1 (chap.4)
Bohlin, Steve, 107–108
Books, types of, 113–114
Boole, George, 10
Boswell, James, 96
Brahe, Tycho, 14–15
Buffett, Warren, 1, 2; investment strategy and, 40, 125–127, 129, 135, 139; myopic loss aversion and, 71–72, 73
Burke, James, 9
Calibration, 150
Cambridge Dictionary of Philosophy, The, 115
“Capital Asset Prices” (Sharpe), 22–23
Capital Ideas (Bernstein), 20
Capitalism, 48
Carlyle, Thomas, 56
Cash flows and investment strategy, 40. See also Discounted Cash Flow (DCF) model
Cash return on invested capital strategy, 40
“Cash-value”, of beliefs, 100; of studying philosophy, 103
Center for Bio-Security Science (CBSS), 53
Chesterton, Gilbert Keith, 123, 145
Christensen, Clay, 41
Clockwork universe, 17–18
Coca-Cola Company (KO), 72, 172–173n4
Cognitive Reflection Test, 146–147, 176n1
Coleridge, Samuel Taylor, 170n3 (Chap.3)
Collective choice, 63
Collective problem-solving, 53–61
Communication systems, 81–82, 108
Comparative reading, 112–113, 116
Complex adaptive systems, 23–24, 43; complexity theory and, 50–53; economics and, 35–38; philosophy and, 87–89; self-organization and, 53–65; “self-organized criticality” and, 61–63
Complex social systems, 65
Comte, Auguste, 18, 47–48
Confirmation bias, 96
Conformity of groups, 60–61
Confusion of Confusions (Vega), 46, 72
Connectionism, 6–7, 157
Connections (Burke), 9
Consilience: The Unity of Knowledge (Wilson), 161
Controller of economy, lack of, 36
Copernicus, Nicolaus, 14–15
Cowles, Alfred, 20
Craik, Kenneth, 77
Creative Destruction (Foster and Kaplan), 41
Creative destruction, Schumpeter on, 32
Credit, Schumpeter on, 32
Critical mind-set, 117
Critique of Judgment (Kant), 51
Crowd, The (Le Bon), 56–57
Crowd behavior, 56–57
Cultural anthropology, 49
Cunniff, Rick, 139
Curtis, Greg, 108
Cyber Monday, 93–94
Damodaran, Aswath, 70
Darwin, Charles Robert: background of, 27–30, 170n3 (Chap.3); The Origin of Species, 30–31, 43–44
Darwin, Erasmus, 27, 170n1
Darwin, Robert, 27–28
Dawkins, Richard, 30
Decision making, 146–163; building mental models and, 154–158; diversity, independence and, 57–59; hedgehogs and foxes and, 149–151; lazy vs. engaged thinking in, 152–154; mindware gaps in, 151–152; multidisciplinary education and, 158–163; system 1 and system 2 thinking and, 146–149, 153–154
Decision theory, 130
Decision tree theory, 132–133
Dell Computer, 93
De Méré, Chevalier, 129
Descartes Rene, 16
Description: meaning and, 88–94, 161–162; slippery slope of, 94–96
Detective stories, 121–123
Difference, The (Page), 58
Discounted Cash Flow (DCF) model, 102, 126–129, 132, 174n24
Discount-to-hard-book value strategy, 39
Discrimination: in literature, 108–109; in thinking, 150
Dispersed interaction, 36
Diversity: breakdowns, 59–60, 62–63; decision making and, 57–59; problem-solving and, 56–57
Dividend model strategy, 39
Dodd, David, 39, 72–73, 139
Doty, Benjamin, 119–120
Drew, Christopher, 172n1 (chap.4)
Dynamic equilibrium, 17
Dynamics, out-of-equilibrium, 37
Dysrationalia, 151

Ecological systems, 38–39, 39
Economics: and behavioral finance, 66–69; and beliefs and mental models, 76–79; and complex adaptive systems, 35–38, 50–65; as a discipline, 48, 50; and ecological systems, 38–39, 39; and equilibrium, 18–25; and evolution, 26, 31–44; and loss aversion, 69–74; and pragmatism, 101–103; and risk tolerance, 74–76. See also Stock market
Economics (Samuelson), 19–20
Economic selection, 40
Education: Franklin model of, 3–5; multidisciplinary, 158–163
Efficient market hypothesis, 22, 24
“El Farol Problem,” 37–38
Emergence: problem-solving and, 54–56, 57–59, 172n1 (chap.4); theory of, 52–53
Entrepreneurs, Schumpeter on, 32
Environmental factors, Schumpeter on, 32
Epistemology, 86–89
Equilibrium: as adaptive process, 32; defined, 17; dynamics, out-of-, 37; economics and, 18–25; law of, 14; punctuated, 35
Equity risk premium, 69–70, 126
“Essay Towards Solving a Problem in the Doctrine of Chances” (Bayes), 131
Ethics, 85–86
Evidential probabilities, 133
Evolution: and economics, 26, 31–44; theory of, 26–30
Exploitation vs. exploration, 156–157
Expository works, 113–116
Extraordinary Popular Delusions and the Madness of the Crowds (McKay), 46
Extremistan (Taleb), 144
Fama, Eugene, 22, 24
Farmer, Doyne, 38–40, 42, 89
Father Brown books (Chesterton), 123
Fat tail, 144
Federal Reserve, 52
Feedback loop, 37–38
Fermat, Pierre de, 130

Downloaded from cupola.columbia.edu
Feynman, Richard, 114
Financial ecology, 39
*Financier, The* (Dreiser), 119–120
*Fortune’s Formula* (Poundstone), 135
Foster, Richard, 41
*Fractal Geometry of Nature, The* (Mandlebrot), 90
Fractals, 90
Framing, 68–69
Franklin, Benjamin, *Proposals Relating to the Education of Youth in Pensilvania*, 4–5
Frederick, Shane, 146–147, 149
Frequency probabilities, 133
Fundamentalists traders, 62

Galapagos Islands, 28–29
Galilei, Galileo, 15
Galton, Francis, 57, 140–141
Gambling, probabilities and, 134–135
Geanakoplos, John, 89
Gell-Mann, Murray, 114
Gender as risk factor, 75
*General Theory of Employment, Interest and Money, The* (Keynes), 128
Genetic crossover, 157
Gradualism, 34–35
Graham, Benjamin, 39, 71–73, 139
Gravitation, 16–17
Great Books program, 106–108; Reading List for, 165–168
Great Depression, 127, 142
Green, Justin, 75
Greenspan, Alan, 119
Gross, Bill, 135
Growth strategy, 40

“How Hedgehog and the Fox, The” (Berlin), 149–150
Henslow, John Stevens, 27
*Hereditary Genius* (Galton), 140
HMS *Beagle*, 27–28
Holland, John H., 8, 156
Hooker, Joseph, 30
“How to Make Our Ideas Clear” (Peirce), 97
*How We Believe* (Shermer), 78–79

Imaginative literature, 117–123
Independence, decision making and, 57–59
Inertia, law of, 169–170
Information cascades, 59–60
Information channel, correcting device and, 82–83, 108
Information quality: intuition and, 148; probabilities and, 130–133
Innovation: Schumpeter on, 32; thinking and, 8–9
*Innovator’s Dilemma, The* (Christensen), 41
*Innovator’s Solution, The* (Christensen), 41
Instability, 35, 63–64
*Intelligent Investor, The* (Graham), 72–73
Internal vs. external types, 76
Internet: emergent knowledge and, 54; illusion of knowledge and, 74
“How Internet and the Investor, The” (Odean and Barber), 74
Intuition, 146–148, 152–153
Jacobs, Alan, 123
Jacobs, Jane, 43
James, Henry, Jr. and Sr., 98
James, William, 96–101, 102
Johnson, Mark, 8
Johnson, Norman L., 53–55
Johnson-Laird, Philip N., 77
*Judgment under Uncertainty* (Kahneman, Slovic and Tversky), 68
Kant, Immanuel, 43, 51
Munger, Charles: decision tree theory and, 132; on education/reading, 104, 124, 154, 160–161; worldly wisdom and, 1–3, 5, 11–12, 82–83

Munson, Lee, 107

Mutation, 29, 35, 41, 157

Mutual knowledge, 63–64

Myopic loss aversion, 69–74

“Myopic Loss Aversion and the Equity Risk Premium Puzzle” (Thaler and Benartzi), 69–71

Narrative knowledge, 94–96

Natural laws, 17–18

Natural selection, 30–31, 38, 40; Social Darwinism and, 49

Nature and Essence of Economic Theory, The (Schumpeter), 31

Nature of Dividends, The (Preinreich), 128

Nature of Economies, The (Jacobs), 43

Nature of Explanation, The (Craik), 77

Nero Wolfe books (Stout), 121

Neural networks, 7, 157

“New Interpretation of Information Rate, A” (Kelly), 134

Newton, Isaac, 14, 16–18, 35, 45–46, 169–17011

Nietzsche, Friedrich, 56

Noise, information channels and, 80–82, 108

Objectivism, philosophical, 119

Odean, Terence, 73–74

Once Upon a Number (Paulos), 95–96

Ontology, 87–88

Optimal growth strategy. See Kelly’s criterion

Origin of Species, The (Darwin), 30–31, 43–44

Out-of-equilibrium dynamics, 37

“Owner-earnings” strategy, 40

Oxford Companion to Philosophy, The, 85, 115

Paccioli, Luca, 129

Page, Scott, 58

Paradigms: collision of, 34; Kuhn on, 33–34; mean instability and, 143

Pascal, Blaise, 129–131

Pattern recognition, 3, 6–7, 103, 156; complex adaptive systems and, 36

Pattern seeking, 78–80

Patterns in nature, 130, 143

Paulos, John Allen, 95–96

Peirce, Charles Sander, 96–97

Penzler, Otto, 122

Perkins, David, 151–152

Personal control orientation, 76

Philadelphia, Public Academy of, 4

Philosophical Investigations (Wittgenstein), 91–92

Philosophy, 84–103, 159–160; complex adaptive systems and, 87–89; description and, 89–96; origins and categories of, 85–87; pragmatism and, 96–103; reading, 114–116

Physical probabilities, 133

Physics, 13–25, 159; definition of, 13, 18; equilibrium, economics and, 18–25; Newtonian, 14–18; universal laws of, 16–17

Pleasures of Reading in an Age of Distraction, The (Jacobs), 123

Political science, 48, 50

Politics, 85–86

Posterior (in Bayes’s Theorem), 131

Poundstone, William, 135

Practical books, 113–114

Pragmatism, 96–103; defined, 99

Predictive models, 58–59

Present value, 127–129

Price(s): classic theory of, 20–21; shadow, 21–22

“Price Variations in a Stock Market with Many Agents” (Bak), 62

Prigogine, Ilya, 51

Principia Mathematica (Newton), 17
Principles of Economics (Marshall), 18–19, 31, 33
Principles of Psychology (James), 98
Priori (in Bayes’s Theorem), 131
Probability theory, 129–133; Kelly’s criterion and, 133–136
Problem-solving, collective, 53–61
“Proof that Properly Anticipated Prices Fluctuate Randomly” (Samuelson), 21–22
Proposals Relating to the Education of Youth in Pensilvania (Franklin), 4–5
Prospect theory, 68–69
“Prospect Theory” (Kahneman and Tversky), 68
Pruitt, Dean G., 75
Psychology, 49, 66–83, 159; behavioral finance and, 67–69; belief systems and, 78–79; communication systems and, 81–82; defined, 66; mental models in, 76–78, 173n14; myopic loss aversion and, 69–74; noise and, 80–82; risk tolerance and, 74–76
Public Academy of Philadelphia, 4
Punctuated equilibrium, 35
Quark and Jaquar, The (Gell-Mann), 114
Quetelet, Lambert Adolphe Jacques, 18, 140
Rand, Ayn, 119
Rational expectations hypothesis, 21–22
Rational thinking skills, 151
Raynor, Michael, 41
Reason, 147–148
Redescription, 88–89, 96, 101
Regression (reversion) of the mean, 139–143
Resnick, I. Gary, 53
Richards, Diana, 63–64
Risk: defined, 143; history of, 129; loss aversion and, 68–74; tolerance, 74–76; uncertainty and, 143–145
Risk, Uncertainty, and Profit (Knight), 143
Risk-free rate, 69–70, 126
Ruane, Bill, 139
Safire, William, 144
Samet, Elizabeth, 120
Samuelson, Paul, 21–22, 24, 70; Economics, 19–20
Santa Fe Institute, NM, 7–8, 89; complex adaptive systems and, 23–24, 36–37; ecological systems and, 38–39
Schumpeter, Joseph: Marshall and, 32–33; Williams and, 127; works of, 31–32, 171n7
Scientific process, 47
Scientific revolution, 14; second, 43
Scientific writing, 114
Security Analysis (Graham and Dodd), 39, 72–73, 139
“Self-organized criticality,” 61–63
Self-Organizing Economy, The (Krugman), 51–52
Self-reinforcing systems, 52
Self-similarity, 90
Sequoia Fund, 139
Shadow prices, 21–22
Shannon, Claude E., 81–82; Kelly criterion and, 133–135
Sharpe, William, 22–23
Sherlock Holmes books (Doyle), 122
Shermer, Michael, 78–79
Sideways markets, 138–139
Simon, Herbert, 148
Smith, Adam, 21, 48, 52–53
Smith, Vernon, 66
Snow, C. P., 94–95
Social biology, 49
Social Darwinism, 49–50
Socialism, 48
Social science writing, 116
Sociobiology, 26–35, 49–50
Sociology, 18, 45–65, 159; complexity
time theory and, 50–53; defined, 47;
development of, 47–50; self-
organization and, 53–65
Soldier’s Heart: Reading Literature
Through Peace and War at West Point
(Samet), 120
Sonat, Sherry, 172n1 (chap.4)
“South Sea Bubble,” 45
S&P 500 Index, 142–143
Species mutation, 29
Stanovich, Keith, 151
Static equilibrium, 17
Statistics, narratives and, 95–96
Stimulus-response framework, 6
St. John’s College (MD), 106–108,
175n1–2 (chap.7); Reading List,
165–168
Stock Growth and Discount Tables
(Guild, Weise, Heard, and Brown), 128
Stock market: Amazon.com and,
92–93; belief systems and, 78–79;
communication systems and, 81–82;
as complex adaptive system, 23–24,
59–60, 62, 64; crash of 1987 and, 24,
26; crash of 2007–2009 and, 26;
Discounted Cash Flow (DCF) model
and, 127–129; diversity and, 56, 59;
Fama and, 22; fiction and, 119–120,
121–123; Great Depression and, 142;
Kelly’s criterion and, 135–136; lazy vs.
engaged thinking about, 154; mental
models and, 77–78, 155–158; myopic
loss aversion and, 69–74; narratives
and, 96; noise and, 80–82; pragmatism
and, 101–103; principles of trading on,
46; regression of the mean and,
141–143; risk, uncertainty and,
143–144; risk tolerance and, 74–76;
Samuelson and, 20–22; self-organized
criticality and, 62–63; strategies,
39–40; variation and, 138–139
Story-telling, 94–96
Structure of Scientific Revolutions
(Kuhn), 33
Subjective probabilities, 133
Subprime Solution, The (Shiller), 119
Summers, Lawrence, 38–39
Sumner, William Graham, 49
Sunstein, Cass, 60
Supply and demand, physics and,
13–14, 25
Surowiecki, James, 57–59
Symbiotic Intelligence Project (SIP), 54
System 1 and system 2 thinking, 146–149,
153–154
Systems: mechanical, 16, 43; nonlinear,
43; self-reinforcing, 52. See also
Complex adaptive systems;
Self-organization
Taleb, Nassim Nicholas, 143–144
Tetlock, Philip, 149, 150
Thaler, Richard, 69–71
Theoretical books, 113–114
Theory of Economic Development, The
(Schumpeter), 171n7
Theory of Games and Economic
Behavior (Von Neumann and
Morgenstern), 68
Theory of Investment Value, The
(Williams), 127–129
Theory That Would Not Die, The
(McGrayne), 131
Thinking: complex adaptive systems
and, 87–89; as correcting device,
108–109; critical mind-set and,
117; deficiencies, 149; defined, 87;
description and, 88–96; Great Books program and, 106–108; hedgehogs and foxes and, 149–151; innovative, 8–9; lazy vs. engaged, 152–154; mindware gaps and, 151–152; pragmatism and, 96–103; reading for understanding and, 109–113, 116–117; system 1 and system 2, 146–149, 153–154

Thinking Fast and Slow (Kahneman), 152–153

Think Twice (Mauboussin), 59

Thoreau, Henry D., 56

Thorndike, Edward, 6

Thorp, Ed Oakley, 134–136

Tractatus Logico-Philosphicus (Wittgenstein), 91

“Trading is Hazardous to your Wealth” (Odean and Barber), 73–74

Trading/traders: fundamentalists and trend followers as, 62; macro, 64; principles of, 46; self-organized criticality and, 62–63. See also Stock market

Trend follower traders, 62

Tversky, Amos, 67–69

Two Cultures and the Scientific Revolution, The (Snow), 94–95

Unicorns: Bayes’s Theorem and, 132; defined, 143; risk and, 143–145 (see also Risk)

Universe: competing theories of, 14–15; natural laws of, 17–18

Utility theory, 68

Value, determining, DCF model and, 126–129

“Value stock” strategy, 101

Variances, 136–139

Veblen, Thorstein, 170–171n5

Vega, Joseph de la, 46

Von Neumann, John, 68

Wallace, Alfred Russell, 30

Wal-Mart, 93

Walter Mitty effect, 75

Wealth of Nations (Smith), 21, 48

Wedgwood, Josiah, II, 28

What Intelligence Tests Miss (Stanovich), 151

Why Do Investors Trade Too Much? (Odean), 73

Williams, John Burr, 102, 126–129

Wilson, Edward O., 49, 161

Winner’s Curse, The (Thaler), 69

Wisdom, worldly. See Worldly wisdom

Wisdom of Crowds, The (Surowiecki), 57–59

Wittgenstein, Ludwig Josef Johann, 91–92

Woodworth, Robert S., 6

Worldly wisdom, 2–3, 5, 11–12, 82–83, 162