

Index

- accommodations, evidential 24–5,
 82–7, 165
 ad hoc theory 11, 46–7, 120
 dubious 2–3, 5, 46
 glorious 5
 Mendeleev and 88, 96–7, 97–101, 101–2,
 104–5, 112–13
 Worrall and 117
 accuracy, probability 207–8
 Achinstein, P. 6, 59
 ad hoc hypotheses 3, 13–14, 18, 63,
 185, 241
see also built to fit explanations
 ad hoc theory
 accommodations 11, 46–7, 120
 endorsements 45
 rescues 2–3, 63
 adhocery 109
 aether theory of nervous system 7–9, 10
 agent evaluation 207
 agnostic evaluators 106–7
 agnostic predictivism 191–4
 American Astronomical and Astrophysical
 Society (AAAS) 103
 anthropologists example 213
 anti-inductivism 122
 anti-realists 16–65, 125–6, 143, 146–7, 152–4,
 164, 167, 187
 /realists debate 123–4, 126, 142, 163, 166,
 186, 242–3
 challenge 155–62
 anti-superfluity principle (ASP) 127–8,
 136–41, 243
 Arago, D.F.J. 8
 arbitrary conjunctions 25, 120
 argon 84
 Aristotle 40, 222
 assessment, theory *see* theory evaluation
 atomic weights 82, 86, 93, 102, 105
 calculation (Kml) 88–90,
 97–101, 119
 authority 40–1, 245
 epistemic 190, 211
 pluralism and 33
 of science 50–1
 auxiliary hypotheses 117, 134–5
 Avogadro's hypothesis 88
 background beliefs
 arbitrary 174–7, 182–3
 common body of 204
 comprehensiveness 192–4, 195–7
 defined 190
 differing 202, 205, 209
 empirically adequate 161–2, 164–5
 experts and 52, 54, 56–8
 Mendeleev's 87–96, 97–104, 107,
 109–13, 119
 non-experts and 41, 45, 46–7, 49
 novel success and 125, 192–4, 196
 observation and 223, 226
 per se predictivism and 114
 pluralist evaluators 65–6
 prior probabilities and 163, 166
 probability function and 230,
 233–5, 239
 scientific community 39, 120
 silly 189
 success predictivism and 191
 theoretical 205–7, 210, 211
 true 131–2, 137–9, 144–6, 168–72, 187–9,
 193–5, 241
 virtuous predictivism and 69–73,
 77–8
 background knowledge 233, 237
 background theories 143–4, 148–9, 151, 155, 164,
 167, 187
 Bamford, G. 12
 Barnes, E. 19, 116, 127
 Barrett, J. 59
 base rate fallacy 125, 162–6
 Bateson, William 150–1, 165

- Bayes' theorem 16, 21, 163, 174, 188, 189, 199
 old evidence and 217–18, 221–2, 225, 237–8
 virtuous predictivism and 69–80
 beliefs, basic 228
see also background beliefs
 Bensaude-Vincent, B. 90, 92–3, 96
 benzene 147
 Berthelot, Marcellin 92, 105, 116
 beryllium 105
 Berzelius, J.J. 89, 95
 biographicalism 6–7, 14–15, 24–6,
 140, 187
 pluralism and 33
 Boyd, Richard 46, 49, 121, 128
 miraculous endorsement argument for realism
 139, 141, 143–4, 144–62, 243
 Boyle, Robert 43
 Brush, S. 83–4, 87, 103–4, 105, 108–10
 Bryan, William Jennings 50
 Bugg, William 52
 built to fit explanations 13, 130–1, 132–6, 137, 141,
 161, 240
see also ad hoc hypotheses
 Callender, C. 125, 155, 162, 243
 candidate theories 137, 164–5
 Cannizarro, Stanislaw 88–9, 97, 100, 119
 Cassebaum, H. 93
 Cavendish, H. 3
 Ceci, S. 215
Chariots of the Gods (von Daniken) 47
 Chemical News 108
 Chemical Society of London 95
 Chihara, C. 220
 Christensen, David 232–7
 Clarke, F.W. 103
 classifiers 93
 Clavius, C. 132
 Coady, C.A.J. 32
 coin flip example 4–5, 17, 19–21, 169–72,
 172–3, 173–9
 counterpredictors 181–4
 Collins, R. 6
 communitarian epistemology 32
 community *see* predicting community; scientific
 communities (SCs)
 competence 195–6, 197
 comprehensiveness requirement 192–4,
 195–7
 conditional confirmation 18–19, 116–19
 conditional probabilities 182
 confirmation theory 14, 18–19, 116–19, 240–2
 rebound effect 19
see also novel confirmation
 connect the dots example 4, 16
 consensus 39, 40–1, 49, 57
 experts and 53, 110
 forced 46, 50
 unforced 43–4
 consequentialism, pure 9–15, 18
 constructive empiricism 126
 Cooke, J.P. 93–4
 Copernicus, Nicholas 4, 152, 244
 core ideas 18–19, 117, 119, 135, 241
 correct probabilities 208
 Correns, C.F.J.P. 150
 counterfactual history 220–1
 counterpredictors 181–4
 creationism 18–19, 117, 119
 creativity 115
 credibility 41, 166
 agent 33, 205, 207–8, 212
 endorser 79, 113, 140
 Dallas Cowboys example 31
 Darden, L. 115, 149–50
 Darwin, Charles 90, 142–3, 154, 160
 data overfitting 24–6, 121
 data-fitting theories 148
 Davy Medal 82–3
 de Boisbaudran, Lecoq 100, 104
 de Chancourtois, A.B. 93
 de Milt, C. 89–90, 96
De Revolutionibus Orbium Coelestium
 (Copernicus) 4
 de Sitter, W. 53–4
 de Vries, H. 150
 demarcation problem 9, 12, 122
 Descartes, René 8, 32, 98
D.I. Mendeleev et la loi periodique
 (Kolodkine) 89
 diachronic problem 218
 direct observation 95, 98
 dissolution of predictivism 15–18, 23–4
 distinction problem 226–7
 divine e-assurance 230–2
 divine M-assurance 230
 Dixon, Jeane 168, 185
 Dobreiner, J.W. 93
 dogmatism 45, 62
 Doolittle, E. 229
 Drake, Stillman 244
 dubious accommodations 2–3, 5, 46
 Duhem, P.M.M. 128
 Dumas, J.B.A. 93
 Dyson, F.W. 53–4
 e-difference approach 219–20, 221, 228–9,
 235–6
 e-evidence, h-independent 223–30, 230–2, 236

- Earman, J. 31, 53–4, 221
 eclipse expedition (Eddington) 107
 Eddington, A.S. 53–4, 107
 Edwards, P. 152
 Eells, E. 220–1, 232–4
 Einstein, Albert 17, 53, 71, 107, 109, 132
 in 1915 223–30
 pure consequentialism and 9–10, 12
 eka-aluminum 100
 elements and systematic unity (K_{m2}) 90–4,
 101–2, 119
 emergence of theories 143, 147, 152, 154
 emission theory of light 8
 empirical adequacy *see* novel success, truth,
 empirical adequacy and
 empirical knowledge 94–5
 empirical success 126, 141, 142–4, 154, 166
 endorsement
 -novelty 37, 37n, 240
 defined 35–6
 epistemic significance of 63–4
 level probabilities 61, 66, 77, 193, 196
 pool of 168
 see also miraculous endorsement argument for
 realism
 epistemic authority 190, 211
 ‘Epistemic Dependence’ (essay) 31
 epistemic individualism 110, 189, 242, 243–4
 defined 27, 31–2
 realists and 166–7, 187–9
 romantic ideal of 32, 60
 epistemic pluralism 31–59, 190–216, 242
 experts 51–8, 244
 mapmakers example 197–205, 210–11
 mixed weights 212–14
 model of theory evaluation 38–51, 195–7
 non-experts 166, 244
 novelty and 33–8
 overview 27–8, 29
 probabilistic jury example 205–10, 211
 realists and 166–7, 187–9
 weighted averaging, objections to 214–16
 see also pluralist evaluators
 epistemic significance
 of endorsement 63, 168, 188, 189
 of judgments of scientists 41, 125, 241–2
 of novelty 123–4, 140
 predictors and 178, 180
 of theory construction 115, 117
 equivalence claim 157–8
Essay Concerning Human Understanding (Locke) 98
Essay on the Intellectual Power of Man (Reid) 55
 Eva examples
 Alex and Peter 61–4, 65–9, 70–8, 78–80
 Priscilla and Countess 172–3, 179–81, 181–2
 evaluation *see* theory evaluation
 evaluators 96
 agnostic 106–7
 individualist 68, 113–14, 140
 see also experts; pluralist evaluators
 evidence
 -based method 212–14
 deletion 220–1, 228
 hunch-producing 202
 intuition and 170, 202, 226, 232, 234
 possession 212–13
 private 203–4
 redundant 237
 sensory 99
 sharing 202–5, 206, 208, 211
 see also accommodations, evidential; old
 evidence
 evolutionary theory 50–1, 151
 examples
 anthropologists 213
 coin flip 4–5, 17, 19–21, 169–72, 172–3, 173–9,
 181–4
 Dallas Cowboys 31
 Eva, Alex and Peter 61–4, 65–9, 70–8,
 78–80
 Eva, Priscilla and Countess 172–3, 179–81,
 181–2
 financial advisor 1, 60, 123, 169
 French bread 2–3, 11–12
 mapmakers 197–205, 210–11
 pharmacologists 212–13
 probabilistic jury 205–10, 211
 psychic 3–4
 experts 39, 51–8, 166, 244
 humble 54–6, 111, 244
 imperfect 52–4, 107–9, 244
 interdisciplinary 51–2, 111, 244
 non- 39–51, 125, 166, 244
 pluralist 125
 reflective 56–8, 110–11
 team-member 51–2
 falsifiability 9–11, 13, 122
 Faraday Lecture 89, 91–2
 Farrar, W.V. 94
 financial advisor example 1, 60, 123, 169
 Fine, A. 146
 first good theories 145, 147, 155
 First Meditation (Descartes) 98
 Fitelson, B. 232–5
 Foley, R. 31
 foundationalism 228
 France 89, 96, 105
 French bread example 2–3, 11–12
 Fresnel, Augustin 8

- Freud, Sigmund 9–10
 fudging explanation 63
 funding 51
- Galen 8
 Galileo 244–5
 gallium 82–3, 86, 100–1, 104, 105, 110, 118
 Garber, D. 221
 Gardner, M. 6
 general theory of relativity (GTR) (Einstein)
 9–10, 17, 53–4, 107–9, 132, 223–9, 230
 genetic theories 19–24
 Gerhardt, C.F. 88, 97
 germanium 82, 110, 118
 Germany 89, 108
 Giere, R. 27, 34, 48, 133
 Gillespie, C.C. 104
 Gladstone, J. 93
 glorious accommodations 5
 glorious predictions 5, 8
 successful 3–4, 85
 Glymour, Clark 53–4, 133
 old evidence and 217, 219, 221, 224–5,
 229, 237
 Gmelin, L. 93
 Gosse, Philip 18–19
 Great Britain 83, 89, 107
 Gren, F.A.C. 3
 Grossman, M. 229
 Gutting, G. 143
- h-independent e-evidence 223–30,
 230–2, 236
 Hacking, I. 13
 Hardwig, John 31–2, 52, 60
 Harker, D. 20
 Hartley, David 7–9, 10
 heliocentric theory 4
 Herschel, John 8–9, 10
 heuristic approach 1–2, 7, 117
 high frequency assumption 160–1, 164,
 168, 186
 history, theory of (Marx) 9
 Hitchcock, C. 24–5, 114, 121, 241
 Hoel, P.G. 208
 Holden, N.E. 89, 95
 Homer 12
 horizontal inference 125–6, 153,
 156–9
 Howson, Colin 4, 16–17, 67, 219
 humble experts 54–6, 111, 244
 Hume, David 10
 hunch-producing evidence 202
 Huygens, Christian 59
 hydrogen 93
- hypotheses
 ad hoc 3, 13–14, 18, 63, 185, 241
 auxiliary 117, 134–5
 method of 7–9, 10
 support 69
 theoretical 134–5
- Ihde, A.J. 88
 imagination 115
 imperfect experts 52–4, 107–9, 244
 inaccessibility thesis 55–6
 individualism *see* epistemic individualism
 individualist evaluators 68, 113–14, 140
 inductive logic 10–11, 16
 anti- 122
 pessimistic 163
 infinite regress argument 222
 instrumental reliability 144, 146
 interdisciplinary experts 51–2, 111, 244
 intuition 27, 66, 122, 136, 195, 214
 evidence and 170, 202, 226,
 232, 234
 posterior probabilities and 76, 80
 weighted averaging and 205, 210
- ‘Jeane Dixon effect’ 168
 justification 37, 221–2, 228, 231
- Kahn, J.A. 19, 22–3, 26, 114, 120,
 186–7, 241
 Kant, Immanuel 32, 90
 Kantorovich, A. 115
 Kaplan, M. 219
 Karlsruhe Conference 88–9, 96, 77
 Kauffman, G.B. 93
 Kekule, F.A. 147
 Kennedy, John F. 168
 Kepler, Johann 103
 Keynes, John Maynard 15–18, 23–4
 Kitcher, P. 3
 Knight, D.M. 92, 95, 109
 Kolodkine, P. 89
 Kremers, P. 93
 Kuhn, T.S. 56, 58, 151, 194
 Kultgen, J.H. 90–1
 Kusch, M. 32
- Lackey, J. 32
 Ladyman, L. 146
 Laing, M. 88
 Lakatos, Imre 1, 12–15, 17–18, 62, 135,
 151, 238
 Landsberg, S.E. 19, 22–3, 26, 114, 120,
 186–7, 241
 Lange, M. 25–6, 114, 120–1

- Laudan, Larry 8–9, 11, 138–9, 142, 151
 Laurent, Auguste 89
 Lavoisier, A.L. 3, 92
 law of octaves (Newlands) 93, 95
 Lehrer, K. 208
 Lenssen, E. 93
 Leplin, Jarret 6, 18, 34, 38, 129, 132, 237
 Leverrier, U.J.J. 229
 Lewis, D. 220
 likelihood ratios 73–4, 78, 85
 Lipton, P. 25, 63, 83, 121, 240
 Locke, John 98–9
 logical positivism 126
 Longino, Helen 215, 245
 Lundgren, A. 95
 Lysenko, T.D. 43, 46
- McAllister, J.W. 15, 148
 MacDonald, H. 40
 Magnus, P.D. 125, 155, 162, 243
 Maher, P. 4, 82–3, 173, 175
 method-based theory 19–23, 26, 34–5, 114–16, 169–70, 189, 241
 Manahan, S.E. 52
 mapmakers example 197–205, 210–11
 Marsden, G. 50
 Marx, Karl 9, 11, 62
 Maxwell, G. 126
 Mayo, D. 4, 221, 238
 Mendel, G.J. 149–51, 153–4, 165
 Mendeleev, Dmitri 49, 97–112, 194, 238–9
 see also periodic law (PL)
 method
 -based theory 19–13, 26, 34–5, 114–16, 169–70, 189, 241
 of hypotheses 7–9, 10
 scientific 6–7, 22–3, 143, 144
 methodology 14–15, 27, 243–5
 principles of 145–6, 150, 152, 155
 of scientific research programmes (MSRP) 12–14
 Meyer, J. Lothar von 89, 93
 Mill, John Stuart 9, 13
 miracle arguments 143, 162, 165
 for realism 123–4, 126, 128–32, 136–41, 242
 for strong predictivism 127, 128–32
 miraculous endorsement argument for realism 139, 141–62, 165, 242–3
 current state of 142–4
 objections to 144–62
 mixed weights 197, 212–14
 model of theory evaluation 38–51, 195–7
 criteria for 41
 modest approach 200–1, 203–4, 211
 Musgrave, Alan 1, 128–9, 132, 142
- natural selection 143
 Neptune 110
New England Journal of Medicine 41
 Newlands, J.A.R. 93–5
 Newton, Isaac 7–8, 17, 59, 71, 90
 Nickles, T. 13–15
 NMR spectroscopy 115
 no-miracles argument 121
 noble gases 84
 non-consequentialism 14–15, 16
 non-experts 39–51, 125, 166, 244
 non-observation problem 229
 Nostradamus 185
 novel confirmation 1
 experts and 53–4, 57, 244
 non-experts and 41, 46–9, 244
 periodic law (PL) and 103, 106–11
 novel success
 background beliefs and 125, 192–4, 196
 chance and 187
 credibility and 207
 high frequency assumption and 186
 miraculous 124
 periodic law (PL) and 100, 101, 104, 105–6, 109–10, 112–13
 pool of endorsements and 168
 posterior probabilities and 189
 realism and 128–9, 166
 take-off theories and 154–5, 163, 165
 weighted averaging and 210
 see also novel confirmation
 novel success, truth, empirical adequacy and 124–5, 126–41, 147, 165
 anti-superfluity principle (ASP) 127–8, 136–41, 243
 built to fit explanations 132–6
 miracle arguments for realism/strong predictivism 123–4, 126–7, 128–32, 136–41, 242
 novelty 12–13, 139
 degrees of 186
 epistemic significance of 123–4, 140
 nature of 1–2
 pluralist evaluators and 33–8
- objectivity 45–6
 observation
 direct 95, 98
 observability 157–8
 observable consequences 138, 141
 statements 133, 159, 197, 236–7
 observational acts 226, 227–9, 231, 237
 defined 222–3

- Observations of Man* (Hartley) 7
 Ockham's razor 127–8, 136–41, 243
 Odling, W. 93–5
 old evidence 45, 217–39
 Bayes' theorem and 217–18, 221–2, 225, 237–8
 h-independent e-evidence 223–30, 230–2, 236
 overview 30
 quantitative problem 217–19, 221, 227, 230–2, 232–7, 242
 overfitting data 24–6, 121
- particle theory of light 59
 Partington, J.R. 108
 Paulos, John Allen 168
 Peirce, C.S. 103
 per se predictivism 67–8, 76–7, 107, 117, 191
 tempered 68–9
 thin 69, 97
 periodic law (PL) 82–7, 96–121, 194
 arbitrary conjunction and 120
 confirmation theory and 116–19
 data overfitting and 121
 Km1 88–90, 97–101, 119
 Km2 90–4, 101–2, 119
 Km3 94–6, 102–4, 119
 Mendeleev's background beliefs 87–96,
 97–104, 107, 109–13, 119
 method-based theory and 114–16
 overview 28
 talent and 120
 tempered predictivism and 106–14
 thin unvirtuous predictivism 104–6
 thin virtuous predictivism 96–7
 truth-aim methodology and 120–1
 Periodic Table of the Elements 49, 82, 87
 pessimistic induction 163
 Peters, D. 215
 Pettenkofer, Max von 93
 pharmacologists example 212–13
 phlogiston theory 3, 5
 Plato 190
 pluralist evaluators 140, 171, 172
 agnostic 106–7
 background beliefs and 65–6
 experts 125
 novelty and 33–8
 tempered predictivism and 86, 109–11,
 113, 191
 see also epistemic pluralism
 Poisson, S.D. 8
 Popper, Karl 9–15, 18, 45, 53, 62, 122, 128, 217, 240
 Posterior Analytics (Aristotle) 222
 posterior probabilities 71, 73–7, 78, 80, 85, 189
 practical observability 158
 predicting community 168–89
 coin flip example 4–5, 17, 19–21, 169–72, 172–3,
 173–9, 181–4
 counterpredictors 181–4
 overview 29
 random factors 179–81, 181–2
 realism, pluralism, individualism 187–9
 size of 168–9, 185–7, 189, 241
 see also scientific communities (SCs)
 'Prediction and the Periodic Table' (Scerri &
 Worrall) 83
 predictions, risky 11–13
 see also successful predictions
 predictivism
 defined 1–2, 5–7
 dissolution of 15–18, 23–4
 genetic theories of 19–24
 history of 7–24
 see also specific types
 prestige 214–15
 Priestley, Joseph 3
Principia (Newton) 7
 prior probabilities 198
 background beliefs and 171, 191,
 193, 210
 novel success and 193–4
 periodic law (PL) and 113, 114
 realism and 154, 163–5, 166, 187–9
 species of predictivism and 65, 67, 71, 75–7,
 78, 80
 private evidence 203–4
 probabilistic jury example 205–10, 211
 probabilities
 estimation 212–13, 216
 function 230, 233–5
 posting, defined 35–6
 see also posterior probabilities; prior
 probabilities
 Prout's hypothesis 93–4
 pseudosciences 9–10, 12, 15, 62,
 122, 240
 Psillos 46
 psychic example 3–4
 psychoanalysis 9–10
 Ptolemy 4, 8, 132, 152
 publicity vs confirmation 109–10
 pure consequentialism 9–15, 18
 Putnam, H. 128
- qualitative problem 217, 219
 quantitative problem 217–19, 221, 227–8,
 237, 239
 solutions 230–2, 232–7, 242
 quantum mechanics 59
 Quine, Q.V.O. 126

- Ramsay, W. 84
 random factors 21–2, 179–81, 181–2
 rationality 32
 Rayleigh, Lord John 84
 realism 187–9
 miracle argument for 123–4, 126, 128–32,
 136–41, 242
 overview 28–9
 retail 125, 163–5, 166
 scientific 49, 127
 wholesale 163–4, 166
 see also miraculous endorsement argument for
 realism
 realists 124–6, 165
 /anti-realist debate 123–4, 126, 142, 163, 166,
 186, 242–3
 epistemic pluralism and 166–7
 Redhead, M. 133
 redundant evidence 237
 reflective experts 56–8, 110–11, 244
 Reid, Thomas 55
 relativity *see* general theory of relativity
 (GTR)
 relevant candidate explanation 137
 reliable methods *see* method-based theory
 research
 programmes 12–14
 project reports 41
 retail realism 125, 163–5, 166
 retrograde motion 4
 revolution, scientific 58
 reward structure 42
 risky predictions 11–13
 Royal Society 43–4, 46, 82–4
 Russell, Bertrand 217
 Russia 108
 Rutherford, Ernest 55

 Salmon, W. 11
 Sambursky, S. 89
 sameness condition 128, 131, 137
 scandium 82, 105, 110, 118
 Scerri, E. 4, 83–4, 86, 93, 114, 118
 Schaffer, S. 43, 46
 Schaffner, K. 18
 Schlesinger, G. 6, 132–3
 scientific communities (SCs)
 defined 38–9
 epistemic pluralism and 39–51, 53–4,
 56–7
 periodic law (PL) and 85, 96, 110, 114, 116, 118
 weighted averaging and 205, 211
 see also predicting community
 scientific method 6–7, 22–3, 143, 144
 scientific revolution 58, 194

 scientific theories 9–13, 18
 Scopes trial 50
 sensory evidence 99
 separability requirement 157–9
 serendipity 115
 Shapin, Steven 43, 46, 59
 shared evidence 202–5, 206, 208, 211
 simplicity 148–9, 152, 153, 155–7
 skepticism 35–6, 45–6, 57, 125, 139, 164, 207
 periodic law (PL) and 83, 91, 94, 97–8, 101–6,
 110–12
 Sobel, M. 59
 Sober, E. 24–5, 114, 121, 148, 241
Social History of Truth (Shapin) 59
 social predictivism 241–2
 Socrates 190
 solar system, heliocentric theory of 4
 Solov'ev, Y.I. 107
 Sosa, E. 32
 Soviet Union (USSR) 43, 46
 spectroscopy 100, 115
 Speelman, C. 56, 202
 Spring, R.J. 100, 108
 Stalin, Joseph 43
 Stanford, P.K. 139
 starlight bending 53
 Stockman, A.C. 19, 22–3, 26, 114, 186–7, 241
 Strathern, P. 92, 95
 strong predictivism 24–7, 61, 124, 142
 miracle argument for 127, 128–32, 136–41
 success predictivism 67–8, 76–7, 191
 tempered 69
 thin 69, 97
 successful predictions 84, 87, 96, 118, 192–3
 glorious 3–4, 85
 see also novel confirmation; novel success
 Suppe, F. 36
 Sweden 95
 synchronic problem 218
System of Logic (Mill) 9
 systematic unity (Km₂), elements and 90–4,
 101–2, 119

 take-off point 46, 145, 165
 take-off theories 145–6, 147–55, 155–6,
 163, 165
 talent 120, 241
 team-member experts 51–2
 tempered predictivism 25–7, 61, 77–8, 216, 240
 epistemic pluralism and 33, 86, 191, 195
 per se 68–9
 success 69
 unvirtuous 68, 81, 106–14
 virtuous 68, 81, 106–14
 temporal account of novelty 1–2

- testability 9–10
 testimony 32
 theoretical account of novelty 1–2
 theoretical hypotheses 134–5
 theoretical inference and truth-conducivity (Km3) 94–6, 102–4, 119
 theoretical knowledge 212–13
 theory construction 3, 34–5, 114–16, 136
 theory evaluation 5–6, 13, 15, 22, 26–7
 model of 38–51, 195–6
 theory of history (Marx) 9
 theory-free reasons 151, 152
 theory-laden criteria 148, 150
 thin predictivism 26–7, 61, 68, 77–8, 240, 242
 per se 69, 97
 social 189
 success 69, 97
 unvirtuous 81, 104–6
 virtuous 81, 96–7
 Thomason, N. 6
 Thorpe, Thomas 107
 thought experiments *see* examples
 track-record based method 212
 triads, of elements 93
 truth 130–1
 -aim methodology 120–1
 background beliefs and 131–2, 137–9, 144–6, 168–72, 187–9, 193–5, 241
 background theories and 187
 entailment facts 132–6, 137, 141, 170
 of predictivism 189
 truthlikeness 195
 values 207
 see also novel success, truth, empirical adequacy and
 truth-conducivity 125, 147–9, 152–5, 156, 162, 163, 165
 theoretical inference (Km3) and 94–6, 102–4, 119
 unconditional confirmation 18–19, 116–19
 United States of America (USA) 83
 unvirtuous predictivism 61–4, 87, 191, 193, 240–1
 overview 28
 realism and 161, 166
 tempered 81, 106–14
 thin 81, 104–6
 uranium 105
 use-novelty 34–5, 34n, 37, 114, 115, 128–9, 138, 141
 USSR 43, 46
 van Fraassen, B. 124, 126, 142, 146, 154, 156–8, 160, 219–20
 van Spronson, J.W. 93
 Velikovskiy, Immanuel 185
 Venable, F.P. 93
 vertical inference 125–6, 153–4, 156
 virtuous predictivism 64–9, 87, 191–2, 240–1
 in Bayesian terms 69–80
 miracle arguments and 124–5, 132, 142, 160–1, 166
 overview 28
 tempered 81, 106–14
 thin 81, 96–7
 von Daniken, E. 47–8
 Wagner, C. 208
 Walton, D. 40, 55, 55–6, 245
 wave theory 8–9, 59
 weak predictivism 24–7, 61, 96, 131
 see also tempered predictivism; thin predictivism
 weighted averaging 195–7, 197–205, 206–10, 210–11
 mixed weights 197, 212–14
 objections to 214–16
 Whewell, William 8–9, 10, 13–14, 123, 128
 White, R. 22, 114, 120–1, 241
 wholesale realism 163–4, 166
 ‘Why I am not a Bayesian’ (Glymour) 217, 237
 Winkler, C.A. 105
 Worrall, John 4, 38, 83–4, 86
 confirmation theory and 18–19, 114, 116–17, 241
 Zahar, E. I, 13–14, 17, 132