CAMBRIDGE

Cambridge University Press
978-1-108-70659-9 — The Metaphysics and Mathematics of Arbitrary Objects
Leon Horsten
Index
More Information

Index

Page numbers in boldface refer to key occurrences of words

λ-abstraction, 153
ω-indiscernible, 176
ω-sequence, **86**, 86, 94, 96, 98–100, 109, 111, 114, 136, 145, 149, 156, 157
  κ-generic, 110
  arbitrary, 109
  computable, 114
  diagonal, 111
  generic, **108**, 108–112, 114, 137, 156, 157, 162–165
    computable, 114, 162, 165, 166, 181, 183, 184, 186
    full, 108, 109, 112, 115, 162, 165, 183, 184, 186, 194
  specific, 108–110
σ-additivity, 195
σ-algebra, 189, 193

abduction, 25, 28, 37, 69, 139
absoluteness, 177
abstract, 95–97, 153
abstraction, 82, 94, 134, 137, 138, 158
  Cantorian, 134, 136, 137, 158
  Dedekind, 135, 137
abstraction principle, 86
  for positions, 150, 151
admissible system, 100, 101
algorithm, 68
analytic, 19, 20
  pragmatically, 20
analytical atheism, 21
anaphora, 76
Anselm of Canterbury, 35
anti-realism, 22, 80
Antonutti, Marianna, 35
arbitrary object space, 54
  complete, 54, 55
  incomplete, 55
  partial, **56**, 57
  total, **54**
arbitrary object theory, 210
  typed, 46
Aristotelianism, 81
Aristotle, 79–81, 85
astrology, 34, 35
automorphism, 97, 103, 117, 119, 120, 145, 150, 152
Axiom of Choice, 12
Axiom of Infinity, 122
Axiom of Replacement, 122

Baire space, 65
  topology, 65
Banach limit, 203
Banach, Stefan, 203
Barcan formula, 171
Barcan Marcus, Ruth, 171
Basic Law V, 84
Benacerraf's puzzle, 84, 85, 93, 95, 97, 98, 104
Benacerraf, Paul, 1, 6, 7, 79, 81, 84, 85, 93–95, 97–100, 104, 111, 142, 149
Benci, Vieri, xiii, 204, 206
Berkeley, George, 47–49, 132, 133, 210
Boolean algebra, 10
  complete, 55
Boolean operation, 55
Boolean valued models, 213
Boolos, George, 78
bounded arithmetic, 73
Bourbaki, 1, 89
Breckenridge, Wylie, 39, 160
Brickhill, Hazel, xiv, xv
Burali–Forti, 86
Burgess, John, xiv, 19–22, 51, 82, 97, 103, 122, 123, 150
Buss, Sam, 73

Calculus, 77
Campbell-Moore, Catrin, xiv, xv
canonical notation, 100
Cantor's principle, **206**, 206
Cantor, Georg, 2, 50, 77, 134, 137–139, 204
cardinal number, 11, 134, 136

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-70659-9 — The Metaphysics and Mathematics of Arbitrary Objects
Leon Horsten
Index
More Information

strongly inaccessible, 201
cardinality, 204
Carnap
Rudolf, 19
Carnap, Rudolf, 17–21, 26, 29, 30, 124–126, 163, 164, 170, 192
Carnapian doublethink, 164
categoricity, 86, 101–103, 113
probabilistic, 116
category, 117
category mistake, 47
category theory, 1, 37, 117
choice sequence, 179
Church, Alonzo, 210
classical reading, 133, 134, 146, 170
co-meagre, 66
codification, 153, 154
coincidence, 168, 170
compactness, 170
comprehension, **45**, 45, 46, 129, 132, 163, 185, 188
naive
for arbitrary objects, 46, 132
for sets, 25, 45
restricted
for arbitrary objects, 46
for sets, 25, 45
computable, 114, 182
practically, 114, 115
computation, 98–102
computational complexity, 182, 184, 185
computational structuralism, 101
concatenation theory, 72, 73
concept, 41, 124
denotation, 41, 42
mathematical, 84
concrete, 104
conditional probability, 195, 196, 200
conditionalisation, 193
configuration space, 109, 110, 116
confirmational holism, 34, 35
consistency, 29
continuity, 65
Continuum Hypothesis, 87, 89, 214
generalised, 206
correlation, 155, 177
countable additivity, 199
counterfactuals, 76
counterpart, 107
Czuber, Emanuel, 66

Damjanovic, Zlatan, 72
De Clercq, Rafael, xiv
de la Valée Poussin, Charles-Jean, 58, 59
Dedekind, Richard, 1, 77, 86, 102, 134, 135, 137, 144, 145
definability, 172, 175
definable, 174
uniformly, 173
deflationism, 33, 108, 140
degree, 178
degree of arbitrariness, 65, 212
degree of randomness, 181
degree structure, 179
denotation, 124
density, 66
dependence, 64, 65, 126, **127**, 127–131, 134–138, 155, 156, 165, 177, 178, 181, 209, 212, 213
co-, 127
functional, 177
one-way, 127, 128, 155
ontological, 103
probabilistic, 156, 194
two-way, 127, 155
dependence logic, 76, 165, 177, 181, 212
dependent sub-space, 56
description
definite, 39, 41
indefinite, 39, 41
determination, 128, 129, 177, 178
Di Nasso, Mauro, 204, 206
diagonal number, 63–65, 112, **174**, 174, 175, 178, 180, 181, 187, 188, 196, 200
Dieterle, Jill, 35
difference principle, 204
discernibility, 172
discrete mathematics, 213
distinguishability
relative, 175
Dummett, Michael, 21

Eddington, Arthur, 26
elementary equivalence, 174
eliminative structuralism, 92
empiricism
British, 47
logical, 19, 20
empty set, 121, 185
epsilon-calculus, 76
equinumerosity, 138
Erdős, Paul, 116, 213
Euler, Leonhard, 59, 64
Evans, Gareth, 52
exemplification, 94, 153

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-70659-9 — The Metaphysics and Mathematics of Arbitrary Objects
Leon Horsten
Index
More Information

expression, 68
extensionality, 45

fair die, 106, 108
Feyerabend, Paul, 22
fictionalism, 17, 23, 148
field
  hyper-rational, 197, 198, 201, 202
  non-Archimedean, 201
Field, Hartry, 1, 90, 148
Fine, Arthur, 22, 26
Fine, Kit, xi, xii, xiv, 2–7, 13, 16, 17, 24–26, 30, 32, 33, 38–40, 42, 44, 48, 69, 71, 76, 77, 105, 113, 123–142, 144, 146, 149, 152, 155–159, 161, 163–165, 177, 208–213
finitary arithmetic, 73
finitism, 71
forcing, 77, 102, 213
Form, 76, 78–80, 141, 211
form, 71, 76, 141
formalism, 101
Forti, Marco, 204, 206
Foundation, 128
Fraenkel, Abraham, 12
framework
  linguistic, 17–20
Frege, Gottlob, 2, 3, 25, 39–41, 45, 49, 50, 61, 66, 67, 69, 74, 75, 84, 86, 129, 135, 137, 138, 146, 152, 159, 160, 173, 209, 210
Freiling, Chris, 214
Fuchino, Sakaé, xiv, xv

Gödel, Kurt, 25, 27, 81, 84
Garson, James, 193
Gaskin, Hilary, xv
general triangle, 47
generic attribution, 132, 133, 163
generic hierarchy, 120, 121
  pure, 121
generic reading, 133, 134, 146, 170
generic truth, **165**, 169, 170, 182
Ghilardi formula, 171
Ghilardi, Silvio, 171
Goldbach's conjecture, 145
Goldbach, Christian, 145
Goodman, Nelson, 90
Grädel, Erich, 64, 181
graph, 68, 113
  arbitrary, 116, 117, 144
  countable, 115–117
  generic, 116, 144
  particular, 116
  Radó, 116
  simple, 115–117
grounding, 31
Grzegorczyk, Andrzej, 72

hairdresser, 53, 193
  arbitrary, 53, 54, 193, 194
  diagonal, 54
  fully arbitrary, 53, 54, 193, 194
  particular, 194
  specific, 53, 54
Halbach, Volker, xiv
Hallett, Michael, 135
Heidegger, Martin, 21, 22
Hellman, Geoffrey, 1, 92, 98, 138, 147, 148, 158
hermeneutic interpretation, 86
Heylen, Jan, xiv
Hilbert, David, 1, 61, 68, 76, 90, 101, 115
Hume's principle
  for cardinality, 205
  for probability, 205, 206
Hume, David, 47, 205
hylemorphism, 79

idea
  general, 47, 48
identification problem, 84, 142
identity, **45**, 45, 126, 129, 151, 156, 163, 168, 170
identity criterion, 45, 67, 125, 130–132, 135, 151, 152, 156
  for arbitrary objects, 45, 135, 137, 138, 157
  for generic systems, 157
  for positions, 151, 152
imagination, 70–75
Incurvati, Luca, 71
independence, 64, 65, 127, 130, 177, 181, 182, 190
  probabilistic, 194
independence logic, 212
independent, 181, 182
indiscernibility, 152, **175**
  of identicals, 52, 170
indistinguishability, 154, 155, 175
individual concept, **124**, 124–126, 162–164, 166, 173, 191–193
  objectual interpretation, 193
  structurally rigid, 173, 174, 183
induction
  mathematical, 187

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-70659-9 — The Metaphysics and Mathematics of Arbitrary Objects
Leon Horsten
Index
More Information

inference to the best explanation, 25, 28, 69
infinite sum, 199
infinitesimal, 50, 77, 113, 205, 212
infinitesimally close, 207
instantiation, 95, 96, 137, **146**, 146, 147, 150, 151, 157, 158
  self-, **157**
instrumentalism, 36
interpretation, 168
intuition, 69, 70, 72–74, 84, 115
intuitionistic mathematics, 179, 181
Isaacson, Daniel, 92, 144
Iseda, Tetsuji, xiv
isomorphism, 84, 85, 99, 101, 102, 106, 107, 113, 136
  recursive, 101
isomorphism type, 101, 115
  computable, 166
iteration, 74
iterative hierarchy of sets, 89, 102, 206
Ito, Ryo, xiv

Jeshion, Robin, 71

Kant, Immanuel, 25
Keränen, Jukka, 98
Ketland, Geoffrey, 151, 152
King, Jeffrey, 76
knowledge
  by acquaintaince, 74
  by description, 74
  de dicto, 75
  de re, 74, 75
Kolmogorov axioms, 189
Kolmogorov complexity, 179
Kolmogorov, Andrey, 65, 179, 189, 195, 205
Kripke, Saul, xii, 7, 8, 31, 77, 107, 108, 163, 164, 174, 183, 191
Kuratowski, Kazimierz, 135

Ladyman, James, 80, 81, 92
Lakatos, Imre, 209
Laplace, Pierre-Simon, 190, 191
large cardinal, 27, 34, 201, 214
large cardinal programme, 102
Lawvere theory, 117
Lawvere, William, 117
Leśniewski, Stanisław, 132, 210
Lebesgue measure, 203
Lebesgue, Henri, 203
Leibniz, Gottfried, 52, 170
letter, 68
Lewis, David, 28, 29, 31, 107, 122
limit
  classical, 199
  generalised, 199, 203
Linnebo, Øystein, xiii, xiv, 68
Locke, John, 47, 76
logic, 27
  classical, 15
  first-order, 14, 88
    two-sorted, 87
  intuitionistic, 163
  modal, 163
  quantificational, 15
  second-order, 85, 87–89, 102, 103, 113
    full, 87
logical form, 39

Müller, Thomas, xiv
Müller–Lyer illusion, 25
MacBride, Fraser, 153
Macnamara, John, 130
Maddy, Penelope, 23, 26, 34, 35
Magidor, Ofra, xiv, 39, 160
magnitude
  physical, 60
Manders, Kenneth, 82
Martin, Donald, 102
mathematical induction, 185–187
  Σ_1-, 73
  second-order, 186
  transfinite, 187, 188, 213
mathematical model, **36**, 36, 37, 106, 150
mathematical philosophy, **36**
mathematical structure
  ante rem, 123
mathematical theory
  abstract, 83
  algebraic, 83, 85, 88, 92, 103, 115, 120, 144, 154
  categorical, 83, 85, 86, 88, 92, 102, 103, 113, 144
  concrete, 83
maximal specificity, 51
measurable, 198
measurable space, 189
measure, 192, 204, 206
Meinong, Alexius, 25–27
Menger, Karl, 59
mereology, 90
metaphysical appearance, 24–27, 29, 30, 33, 35–37, 140, 208, 209
metaphysical nature, 17, 26, 30–32, 36, 37, 105, 127, 140, 149
metaphysical reality, 26, 27, 29

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-70659-9 — The Metaphysics and Mathematics of Arbitrary Objects
Leon Horsten
Index
More Information

metaphysics, 34–36
  descriptive, 24
  Finean, 24, 31
  foundational, 5, **24**, 24–27, 30–32, 131, 152, 156, 157
  of mathematics, 32
  naive, 5, 6, **24**, 24–26, 29–32, 36, 37, 124, 125, 131, 143, 146, 147, 149, 152, 156, 208–210
  traditional, **17**, 23, 25
metaphysics proper, 17
methodology, **13**, 13
  metaphysical, 14, 17, 28, 126, 208, 209
  scientific, 27, 209
mini-world, 107, 108
modal logic
  Carnapian, 162, 164, 165, 170, 171, 213
  Kripkean, 164
modal profile, 164, 180
modality, 146, 147, 163
model
  intended, 158
  non-standard, 88, 113, 114
  standard, 165
multiverse, 102, 103
Myhill, John, 19

natural language, 140
natural number, 211
  κ-generic, 64
  ω-generic, 64, 66, 181
  1-generic, 64
  arbitrary, 47, 48, 59, 61, 62, 64–67, 75, 110–112, 114, 132, 145, 146, 163, 166, 175, 196
    random, 180
  fully arbitrary, 62, 63
  particular, 145
  second-order arbitrary, 64
  specific, 48, 59, 61–63, 67, 75, 110, 111, 114, 145, 163, 166, 167, 172, 178, 179, 181, 185
natural number structure, 136, 137, 139, 145, 158
  computable, **115**
  generic, 111, 112, 114, 213
    computable, 213
    full, **111**, 112, 115, 149, 213
naturalism, 14, 23, 26, 149
nature, 148
Nelson, Edward, 73
Nietzsche, Friedrich, 21, 35
Nodelman, Uri, 153, 154
nominalism, 147
notation system, 75, 101, 181
  computable, 101, 114, 115, 166
  stroke, 115
number, 134
  arbitrary, 49, 50, 66, 67, 159, 177
  determinate, 66, 67
  indefinite, 49
  indeterminate, 66, 67
  random, 179, 212
  specific, 49, 67, 160
  variable, 42, 59, 69, 141, 142, 159, 211, 212
numeral, 100, 101

object, 126, 149, 164, 192
  abstract, 68, 69, 74, 153, 154
  arbitrary, 2, 39, 40, 44, 46, 47, 49–53, 69–71, 123–127, 129, 140, 141, 145, 148, 149, 155–157, 159, 161, 163, 164, 191–193, 209–212
    dependent, 44
    first level, 46
    higher-order, 120, 121
    independent, 44
    second level, 46
    second-order, 119, 120, 145
  fictional, 51
  fully arbitrary, 208
  generic, 40
  incomplete, 97, 104–106, **150**, 150, 153
  mathematical, 81–84, 91, 92, 94, 95, 106, 120, 124, 144, 145, **148**, 154, 159
  physical, 69, 92, 114
  quasi-concrete, **68**, 69, 70, 83, 101
  specific, 39, 40, 44, 46–49, 126, 134, 146, 161, 164
  structural, 175
  thin, 68
  variable, **40**, 42, 74, 124–130, 133, 137, 158
    independent, 130, 131
Ockham's razor, 209
Onishi, Takuro, xiv
ontology, 17
ontotheology, 21
order type, 134
ordinal, 206, 207
outcome space, 189, 196, 200

Paradox of the Barber, 54
Parsons, Charles, 6, 19, 68, 70–72, 74, 82, 91, 104, 115, 123, 144, 148

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-70659-9 — The Metaphysics and Mathematics of Arbitrary Objects
Leon Horsten
Index
More Information

partial ordering, 178
participation, 141
partition, 178
partition refinement, 178
Peano Arithmetic, 73, 154, 165
  first-order, 73, 101, 114
  second-order, 86, 186
permutation, 98, 149, 165, 166, 168, 203
  computable, 166
  recursive, 115
permutation objection, 98, 138, 149, 153, 158, 159
permutation-invariance, 180, 202
Pettigrew, Richard, xiv, 93, 117, 149, 161
phenomenology, 24
physicalism, 89, 96
Plato, 76, 78–81, 85, 97, 141
platonism, 80–82, **83**, 84, 89, 95, 96, 102, 103, 126, 141
  mathematical, 22, 23, 85
plurality, 88, 89
Poincaré, Henri, 79, 80
position, 82, 94, 95, 97, 103, 150, 151, 166
possibility
  afthairetic, 51, 52, 60, 62, 148, 157, 195, 209
  concrete, 147
  logical, 148
  mathematical, 148
  metaphysical, 50–52, 148
  quantitative, 195
possibility afthairetic, 148
possible world, 50, 51, 107, 109, 110, 168
postulational, 139, 140, 142
power set condition, **206**, 206
predicativism, 139, 140
  strict, 73
Primitive Recursive Arithmetic, 73
probabilistic proof methods, 213
probability, 107, 108, 116, 189, 193, 196
  non-Archimedean, 203
probability function, 189, 193, 198, 200
  classical, 189, 191, 194
  countably additive, 189, 195, 199
  Euclidean, **198**, 198, 202–205
  finitely additive, 198, 202
  non-Archimedean, **195**, 195, 202, 204, 205, 207, 213
  perfectly additive, 199, 202
  regular, **198**, 198, 202
  total, 198, 202
  uniform, 193, 194, 196, **199**, 199, 202
probability triple, 189
progressive, 188
proof
  mathematical, 14
proper class, 201, 205
proper name, 159, 173, 174
property
  arbitrary, 58, 60, 192
  internal, 94
  specific, 58
  structural, 97
prototype, 135–137, 156, 159
psychologism, 137
Putin, Vladimir, 153
Putnam, Hilary, 31

quantification, 159, 163
  plural, **88**, 88, 89
quantity, 58, 59, 191, 192
  mathematical, 59, 60
  measurable, 192
  physical, 59, 60
  variable, 59, 177, 212
quasi-categoricity, 102, 103
question
  external, 17–19, 23, 30
  internal, 17–19, 29, 30, 32
quietism, 5, **16**, 23, 24, 27, 29, 30, 32–34
Quine, W.V.O., 5, 13, 14, 19, 23, 28, 34, 69, 88, 90, 125, 151, 152

Rényi, Alfréd, 116
Radó graph, 116
Radó, Tibor, 116
random variable, 58, **189**, 189–194, 196, 200
  fair coin, 189
randomness, 179, 180
range of values, 127
rank, 128
  strongly inaccessible, 201
ratio formula, 191, 193
realism, 1, 5, 6, 31, 80, 105, 126
  mathematical, 22, 23
  metaphysical, 28, 30, 32, 33
  scientific, 22
  super-, 23
recursiveness, 98–100
reduction, 83, 84, 144, 147
  ontological, 5, 16, 25, 31, 40, 84, 86, 106, 126, 152, 156
  semantic, 16, 148
reductionism, 126
  ontological, 156
  set theoretic, 84, 137

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-70659-9 — The Metaphysics and Mathematics of Arbitrary Objects
Leon Horsten
Index
More Information

reference, 159, 160
  arbitrary, 39, 160
Reinhardt, William, 27
relation
  structural, 94
relative frequency, 195
representational type, 135–138, 158
Rescher, Nicholas, 47
research problem, 209
Resnik, Michael, 1, 88, 95, 113
restriction, 56
revolutionary interpretation, 87
rigid, 103
rigid designator, 174
Robinson arithmetic, 73
Robinson, Abraham, 73, 212
Rosen, Gideon, xiv, 29
Ross, Don, 80, 81, 92
Russell paradox, 43, 45, 46, 49, 163
Russell, Bertrand, 6, 21, 27, 38, 39, 41–45, 47, 49, 58, 76, 124–126, 135, 138, 140, 146, 163

sample space, 194
Santambrogio, Marco, 2, 4, 65, 71, 132, 133, 141, 142, 163, 211
satisfiable, 170
  finitely, 170
scepticism, 25
Schiffer, Jonathan, 33
second-order arithmetic, 182, 184–186
  true, 184
set, 87–89, 103, 104, 200
  arbitrary, 200, 201, 213
  empty, 103, 104
  of natural numbers, 184, 185
  pure, 84, 85, 89, 102
  size of, 204
set theoretic universe, 102, 103, 120, 200
set theory, 27, 35, 37, 84, 87, 89, 96, 102, 103, 120, 122, 148, 176, 177, 200
  second-order, 91
Shapiro, Stewart, xiv, 1, 14, 76, 94–99, 103, 104, 123, 137, 138, 144, 146–152, 154
Shapiro, Stuart, 76
Sider, Theodore, 14, 28, 34, 79
singleton, 103, 104, 122, 185
Skolem function, 76, 165
Skolem, Thoralf, 87
something-from-nothing, 33, 34
Speranski, Stanislav, xiii–xv
state, 44, 48, 49, 51, 52, 107, 110, 112, 115, 127, 146–148, 157, 168, 192
state description, 192
state space, 44, **48**, 106, 107, 113, 114, 194, 196, 200, 201
  full, 108
Stern, Johannes, xiv, xv
Strawson, Peter, 24, 151, 152
string of strokes, 68, 70, 71, 74
  arbitrary, 72–74
string of symbols
  arbitrary, 74
structuralism, 1, 77, 78, 143
  ante rem, 81, 95, 153, 154
  in rebus, 81
  computational, **101**, 166
  eliminative, 78, 81, 83, **85**, 86–89, 92, 93, 99–101, 103, 146–148, 158
  epistemic, 80
  generic, 143, 157
  mathematical, 1, 2, 77, 81, 95, 102, 103, 105, 112, 139, 143, 146, 158
  modal, **91**, 92, 147
  non-eliminative, 78, 81, 83, **94**, 94, 96–99, 106, 123, 137, 138, 146, 149, 151, 154, 157, 158
  ontic, 80
  physicalist, 91
  set theoretic, 89
structure, 79–81
  ante rem, 94, 96, 98, 104, 146, 154
  derived, 82
  internal, 100
  mathematical, 1–3, 77, 81–83, 85, 86, 92, 94–97, 101, 103, 105–107, 113, 120, 122, 137, 143–148, 150, 153, 154, 158
superregularity, **205**, 205–207
superrrealism, 23
supervaluation, 69
symbol, 68
symmetry principle, 202
system, **85**, 85–87, 89, 95, 96, 101, 103, 105, 106, 108, 146, 147, 150
  admissible, 98
  arbitrary, 4, **106**, 106, 108, 113, 114, 145, 146, 155
  generic, **106**, 106, 107, 112–114, 117, 137, 143–147, 153, 156, 162
  particular, 144
  simply infinite, 145
  specific, 106
system of variable objects, 129–131, 155

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-108-70659-9 — The Metaphysics and Mathematics of Arbitrary Objects
Leon Horsten
Index
More Information

universal, 131
system-isomorphic, 85, 98

Tait, William, 22, 23, 26, 71, 73
Tatton-Brown, Oliver, xiv, 144
Taylor, Sophie, xv
Tennenbaum's theorem, 101
Tennenbaum, Stanley, 101
term, 41, 42
theology, 21, 22, 34, 35
thing, 41, 124
translation-invariance, 203, 204
Turing machine, 99, 166
Turing, Alan, 99, 166
two-indiscernibles, 175
type, 48, 135, 141
universal, 48, 49

ultrafilter, 9, 112, 196, 199–201, 204–206
fine, **196**, 197, 201, 202
free, 196, 197
selective, 204
ultrapower, 112
uniform probability distribution, 191, 193
universal, 70, 81, 141, 142, 211
structural, 94
Urelement, 121

Väänänen, Jouko, 64, 181
vagueness, 69
valuation, 168, 169
value, 44, 127, 137, 141, 158, 182
value range, 48, 49, 141, 194
van Fraassen, Bas, 36

variable, 40, 41, 43, 44, 76, 141, 181, 189, 191
aleatoric, 191
dedicated, 93, 149, 161
dependent, 149
independent, 149
first-order, 11
mathematical, 59, 211
physical, 191
random, 77
scientific, 58, 59, 191, 192
second-order, 11
stochastic, 191
variable conjunction, 43, 124
Venturi, Giorgio, xiv
vertex
arbitrary, 118
potential connected, 119
von Neumann, Johann, 135, 138

Weierstraß, Karl, 50
weight, 191, 194
Welch, Philip, xiv
well-ordering, 186–188
Wenmackers, Sylvia, xiii
Wiggins, David, xiv
Williamson, Timothy, xiv, 28
Wittgenstein, Ludwig, 24
word, 70
worldview, 32, 33
Worrall, John, 80

Zalta, Edward, 153, 154
Zermelo, Ernst, 12, 45, 102, 103, 135, 138, 203

© in this web service Cambridge University Press www.cambridge.org