CAMBRIDGE

Cambridge University Press
0521430690 - Universality and the Liar: An Essay on Truth and the Diagonal Argument - Keith Simmons
Index
More information

# Index

Adams, Marilyn McCord, xi, 183 *n*6, 199–200 *n*5
affirmative insoluble, *see* insoluble
Albert of Saxony, 90, 204 *n*44
algorithmic function, 31–2, 189 *n*30
ampliation, 90–1, 204 *ns*39&44, 204–5 *n*45
anaphoric Liar, 108, 109, 124, 133, 177, 178, 181, 193 *n*24; *see also* singularity
anaphoric singularity, *see* singularity
Aristotelian conception of truth, 11
Aristotle, 83, 89, 90
Asher, Nicholas, 192–3 *n*24
Ashworth, E. J., 201 *n*13, 202 *n*25
asymmetrical network, 112, 120; *see also* nonexplicit reflection

Bain, David, xii
Bar-Hillel, Y., 183 *n*6
Bar-On, Dorit, xii, 186 *n*48
Barwise, Jon, x, 96, 101, 106, 179, 183 *n*1, 214 *n*9
basic tree, 113, 115, 119, 125–6; extended definitions of, 161, 167, 176, 178
Belnap, Nuel, 196–7 *n*16
$\beta$-level reflection, 134
$\beta$-reflective sentence, 135
bivalence, *see* principle of bivalence
Bocheński, I. M., 185–6 *n*22, 199 *n*3, 201 *n*12, 201 *ns*12&14
Bochvar, D. A., *see* three-valued logic
Boehner, Philotheus, 201 *n*13
Boolos, George, 183 *n*1
Bottin, Francesco, 201 *n*13
Bradwardine, Thomas, 183 *n*8, 184 *n*11, 200 *ns*7&10
Brandom, Robert, x, 9, 78–80
Burali-Forti's paradox, 187 *n*1
Burge, Tyler, x, xi, 96–8, 101, 104, 106, 179, 192 *ns*17&19, 207 *ns*68&74, 208 *n*5, 210 *n*25, 213 *ns*3(Ch8)&4(Ch9), 214 *n*8
Buridan, John, 4, 110, 111, 183 *n*3
Burley, Walter, x, 84–98, 184 *n*9, 186 *n*22, 201 *ns*12&19, 202 *n*23, 202–3 *n*27, 203 *ns*29&30, 205 *ns*47&49, 206 *ns*54&58; *see also* Ockham–Burley–Pseudo-Sherwood solution

Cantor, Georg, 187 *ns*1&2
Cantor's diagonal argument, *see* diagonal argument
Cantor's paradox, 35; as a diagonal argument, 35, 188 *n*19
Cantor's power set theorem, 20, 21, 27, 35, 39, 187 *n*1, 187–8 *n*7, 188 *n*9
Cantor's theorem, 16–17, 19, 20–1, 22–5, 26, 27, 29, 32, 187 *n*1
*cassantes, see* cassation
cassation, 183 *n*8, 200 *n*8
category mistake, 9, 55
chains, 4–6, 8, 100, 109–12, 119, 127, 128–9, 138, 150–1, 151–2, 155, 156, 183 *n*4, 203 *n*29, 211 *n*2; *see also* heads a chain
choice negation, 53; *see also* exclusion negation
Chrysippus, 83
Church, Alonzo, 13, 206 *n*63
Church's thesis, 44
Cohen, L. Jonathan, 213 *n*3(Ch8)
complete explicit reflection, *see* explicit reflection
context-independent uses of 'true', 173–5, 177, 180, 181, 182
contextual approaches to the Liar, 93–4, 96–8, 101–6
Curry's paradox, 3–4, 148–9
cycling paradoxes: semantic, 27, 37; set-theoretic, 27, 34–5

d'Ailly, Pierre, 184 *n*10, 185–6 *n*22, 200 *n*7, 201 *ns*12,14,&15



© Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
0521430690 - Universality and the Liar: An Essay on Truth and the Diagonal Argument - Keith Simmons
Index
More information



Dauben, J. W., 187 *n*4
Davidson, Donald, 195 *n*30
Definite Liar, 74–6, 78; as a diagonal argument, 73–4
definite truth, 72–8
de Rijk, L. M., 201 *n*16, 204 *ns*39&44
diagonal argument, Cantor's use of, 16–7, 20–2, 26, 27, 187 *n*1
diagonal argument, general analysis, 22–6, 37–9; array of, 22, 37–8; cells of an array, 23; countervalue of a diagonal, 24–5, 38; diagonal, 23–4, 38, 188 *n*9; occurrence as a row, 25, 38; side of an array, 22; top of an array, 22; value of a diagonal, 24, 38; values of an array, 22, 37
diagonal arguments, direct and indirect: direct, 26, 29–33, 35, 36, 37; indirect, 26, 29, 33, 35, 37
diagonal arguments, good and bad: good, 20, 27, 29–37, 45, 52–3, 56–8, 61, 62, 66–7, 68, 71, 73–4, 75, 76, 78, 189 *n*31; bad, 20, 27, 28–9, 31–7, 45, 60–1, 188 *n*19, 189 *n*31, 190 *n*39
diagonal theorems: basic, 25; generalized, 38, 43, 190 *n*38
Diogenes Laertius, 83
Du Bois-Reymond, Paul, 187 *n*1
Dumbleton, John, 183 *n*6

Etchemendy, John, x, 96, 101, 106, 179, 183 *n*1, 214 *n*9
Eubulides, 83
evaluated sentence, 102; *see also* evaluation
evaluated tree, 114–15, 115–16, 119
evaluated$_0$ tree, 132; extended definition of, 161
evaluated$_\beta$ tree, 137; extended definitions of, 161, 167, 176, 178
evaluation, 102; *see also* explicit reflection; nonexplicit reflection
exclusion negation, 53–5, 192 *n*20; *see also* choice negation
explicit reflection, 102, 118–20, 123, 127–8, 211 *n*2; complete explicit reflection, 103, 118–21, 128, 208–9 *n*6, 209 *n*13, 211 *n*7; partial explicit reflection, 102–3, 118–21, 128, 208–9 *n*6, 209 *n*13, 211 *n*7; *see also* nonexplicit reflections
expressive incompleteness, 18–19, 36, 45–7, 58–61, 66–7, 73, 78, 98

fallacy *secundum quid et simpliciter,* 83, 85–6, 89–91, 94, 202 *ns*21&23, 203 *n*35, 204 *ns*37&40
false$_0$ sentence, 123
false$_1$ sentence, 132
false$_\alpha$ sentence, 139
Feferman, Solomon, x, 70–2, 77, 197 *ns*17&18
Fine, Kit, 185 *n*17
Fitch, Frederic B., 183 *n*8, 184 *ns*9&10, 190 *n*1
Frege, Gottlob, 55, 206–7 *n*63
further singularities, *see* singularity
fuzzy logic, 56–8; Zadeh's fuzzy logic, 57–8, 185 *n*17
fuzzy truth values, 57–8, 59

Gaifman, Haim, x, 96, 101, 106, 211 *ns*2&7
Garver, Newton, 183 *n*6
global sentences, 97, 182, 207 *n*74
global truth predicate, *see* universal truth predicate
Goddard, Leonard, 188 *n*10
Gödel, Kurt, 94–6, 107, 116, 188–9 *n*23, 189 *n*26, 206 *n*61, 206–7 *n*63, 207 *n*64, 210 *n*31
Gödel's first incompleteness theorem, x, 20, 27, 29–31, 32; as a diagonal theorem, 30–1
Goldstein, Laurence, 201 *n*15, 206 *n*58
Grabmann, Martin, 201 *n*16
Grattan-Guinness, Ivor, 187 *n*1
Grelling's paradox, *see* heterological paradox
grounded sentence, 15, 100, 121–3, 129, 136, 139, 159–63, 176, 181, 210 *n*28, 211 *ns*5&6; grounded $\beta$-reflective sentence, 136; grounded reflection-free sentence, 129; grounded sentence of level $\alpha$, 139, 160; *see also* Kripke's theory of truth; paradoxes of grounding
Gupta, Anil, x, 62–9, 70, 72, 196 *ns*7&12, 196–7 *n*16
g-witness, 122–3; extended definitions of, 167, 176, 178

Haack, Susan, 195 *n*29
halting problem, 33–4
Hart, W. D., xi, 184 *n*10
heads a chain, 127
Herzberger, Hans G., x, 58–61, 62–9, 70, 72, 188 *n*10, 195 *n*31, 196 *n*7, 196–7 *n*16, 206 *n*63
heterological paradox, 1, 2, 9, 19, 27, 45–6, 52, 95, 96; as a diagonal argument, 17–18, 35–6, 41, 42, 59–61; three-dimensional version, 40–1; *n*-dimensional version, 42; *see also* superheterological paradox
Heytesbury, William, 183 *n*6, 200 *n*7



© Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
0521430690 - Universality and the Liar: An Essay on Truth and the Diagonal Argument - Keith Simmons
Index
More information



hierarchy of languages, *see* Tarskian hierarchy of languages
Hintikka, Jaakko, 206 *n*63

inconsistent worlds, 78–80
insoluble: affirmative, 86, 88, 89, 96; negative, 86, 87, 88

Jeffrey, Richard, 183 *n*1
Johnston, Mark, 188 *n*10

Kalish, Donald, 188 *n*11
Kaplan, David, xi
key singularity, *see* singularity
Kleene, S. C., 43, 189 *n*28, *see also* three-valued logic
Kneale, W. C., 183 *n*6
Kretzmann, Norman, 203 *n*36, 204 *n*39
Kripke, Saul, 6
Kripke's theory of truth, x, 47–55, 62, 63, 66, 70, 72, 73, 76, 77–8, 184 *n*12, 185 *n*13, 191 *n*15, 192 *n*20, 192–3 *n*24, 193–5 *n*25, 215 *n*14; grounded sentences, 47–8, 66, 192–3 *n*24, 193–4 *n*25; minimal fixed point, 49–52, 53, 66, 73, 75, 76, 193–4 *n*25, 196–7 *n*16; paradoxical sentences, 48

Liar paradox, 1–7; empirical versions of, 5–6, 7–8, 11–12, 13; *see also* anaphoric Liar; Definite Liar; Revenge Liar; Strengthened Liar; Superliar paradox
Löb's theorem, 183 *n*1
looped sentence, 4–6, 100, 110–12, 127, 151–2, 156, 203 *n*29; Nixon/Dean loop, 142–5; policeman/prisoner loop, 145–8
Łukasiewicz, J., *see* three-valued logic
Lycan, William, xi

Mar, Gary, 188 *n*11
Martin, D. A., xi
Martin, Robert L., 9, 45, 46, 55, 184 *ns*10&12, 188 *n*10, 191 *n*13, 195 *ns*33&34
McGee, Vann, x, 9, 72–8, 197 *ns*29&31, 198 *ns*33&38, 199 *n*41
metalanguage, 12–13, 18, 99; and Feferman, 71–2; and Herzberger and Gupta, 67–9; and Kripke, 52–3, 62, 76, 192 *n*20; and McGee, 75, 76–8; and Ockham–Burley–Pseudo-Sherwood, 92–3; and Priest, 80–2; and Rescher and Brandom, 80; and singularity approach, 117, 140–1, 159, 174–5, 181; *see also* object language; Tarskian hierarchy of languages; theoretical language
Minimality, *see* principle of Minimality
Montague, Richard, 188 *n*11
Moody, Ernest A., 201 *n*12
Moschovakis, Y. N., 191 *n*14

negative insoluble, *see* insoluble
nonexplicit reflection, 112, 115, 120, 127, 129, 135, 209 *n*12, 211 *n*2; *see also* explicit reflections
Normore, Calvin, xi

object language, 12–13; and Feferman, 71; and Herzberger and Gupta, 67–8, 71; and Kripke, 62, 76; and McGee, 76; and Ockham–Burley–Pseudo-Sherwood, 92–3; and Priest, 80–2; and Rescher and Brandom, 80; and singularity approach, 117, 140–1, 159, 160, 164, 168, 173–81; *see also* metalanguage; Tarskian hierarchy of languages; theoretical language
Ockham, *see* William of Ockham
Ockham–Burley–Pseudo-Sherwood solution, 83–98, 100, 203 *n*29&33, 207 *n*74, 207–8 *n*3, 210 *n*23

paraconsistent approach to the Liar, *see* Brandom, Robert; Priest, Graham; Rescher, Nicholas
paradox of propositions, 190 *n*39, 207 *n*1
paradox of stable truth, 66–9; as a diagonal argument, 66–7; *see also* stable truth
paradoxes of grounding, 159–60, 162–3
Parsons, Charles, x, 96–8, 101, 106, 179, 214 *n*8
Parsons, Terence, 54, 55
part–whole distinction: integral part, 89, 203 *n*36; integral whole, 89, 203 *n*36; universal part, 89–90, 204 *n*38; universal whole, 89–90, 204 *n*38
partial explicit reflection, *see* explicit reflection
Paul of Venice, 7, 46, 183 *ns*6&8, 184 *ns*10&12, 199–200 *n*5, 200 *ns*9&10, 201 *n*12, 204 *n*44
Peter of Spain, 204 *n*44
PM, 29–31, 188–9 *n*23, 189 *n*26
power set theorem, *see* Cantor's power set theorem
Priest, Graham, 9, 80–2, 199 *ns*45&53
prime container, 130, 212 *n*8
prime for the propositional calculus, 130, 212 *n*8
primitive recursive derivation, 32
primitive recursive function, 31–2
principle of bivalence, 8, 96, 116, 117



© Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
0521430690 - Universality and the Liar: An Essay on Truth and the Diagonal Argument - Keith Simmons
Index
More information



principle of Minimality, 107–9, 112, 114, 118, 120, 125, 140, 141, 145, 157, 175, 178
principle of Symmetry, 110, 112, 118, 119, 120, 129, 131, 136, 153–4, 155, 157
Prior, A. N., 183 *n*6, 213 *n*3
productive set, 189 *n*32
proper classes, 188 *n*8, 214 *n*8
propositions, 7–8, 10–11, 83, 94–5, 106, 179, 200 *ns*8&9; *see also* paradox of propositions
pruned tree, 113–14, 115, 119
pruned$_0$ tree, 126
pruned$_0^R$ tree, 128
pruned$_\beta$ tree, 133
pruned$_\beta^R$ tree, 134
Pseudo-Sherwood, x, 84–98, 184 *n*10, 200 *n*8, 201 *ns*12,16,19,&20, 202 *ns*21,23,&26, 205 *n*47, 206 *ns*52&58; *see also* Ockham–Burley–Pseudo-Sherwood solution

quantification over contexts, 165–74, 176, 182, 213 *n*4(Ch9)

range of significance, 95, 96
redundant contextual subscript, 166; clause for, 166
reflection-free sentences, 124, 129; *see also* $\beta$-level reflection; $\beta$-reflective sentence
reflective hierarchy, 124–41; and English, 124–5, 139–41
Rescher, Nicholas, x, 9, 78–80
Resnik, Michael, xi
*restringentes,* 87, 89, 92, 93, 184 *n*9, 201 *n*12, 202 *n*26, 205 *n*47, 206 *n*50; *see also restringentes'* rule; self-reference
*restringentes'* rule, 84, 86–9, 94, 184 *n*9, 185–6 *n*22, 200 *n*11, 202 *n*26, 202–3 *n*27, 203 *n*30, 205 *n*46; *see also restringentes;* self-reference
Revenge Liar, 7, 191 *n*6
Richard's paradox, 27–9, 31, 33; as a diagonal argument, 28
Rogers, Hartley, 31, 189 *ns*29,30,&37
Roseth, Roger, 184 *n*9
Roure, Marie-Louise, 89, 92, 201 *ns*12,13,&16, 203 *n*35, 204 *n*37, 205 *n*47, 205–6 *n*49
Rudin, Walter, 187 *n*1
Russell, Bertrand, x, 10, 15–16, 20, 25, 27, 29, 99, 185 *n*19, 188 *n*10, 190 *n*39, 207 *n*1
Russell's paradox, x, 33, 34, 37, 189 *n*31, 206 *n*63; as a diagonal argument, 33
Russell's theory of types, 8, 10–11, 13, 28, 83, 92, 94–5, 107, 186 *ns*25&26, 201 *n*13, 205 *n*47, 206 *n*61, 207 *n*1
Russell's vicious circle principle, 10, 18, 28, 83, 185 *n*19, 185–6 *n*22, 188 *n*18

schematic worlds, 78–9
*secundum quid et simpliciter, see* fallacy *secundum quid et simpliciter*
self-reference, 8, 83, 86–9, 94, 184 *ns*9&10, 200 *n*11; *see also restringentes; restringentes'* rule
semantic closure, *see* semantic universality
semantic universality, 12–13, 15–16, 18–19, 46–7, 52–3, 58, 62, 98, 117, 174, 179–82; *see also* universality
sentence (as sentence type in a context), 113, 120
Sexgrave, Walter, 184 *n*9
Simmons, Keith, 188 *n*16, 190 *n*39, 191 *n*14, 201 *n*15
singularity, 95–6, 108, 114, 212 *n*9; actual vs. possible, 108, 158; anaphoric, 157, 177–8, 181, 182, *see also* anaphoric Liar; as notion in the object language, 163, 171, 213 *n*3; further singularities, 114, 153–8, 168–9, 213 *n*2; key singularity, 130, 136, 139, 168
singularity approach to the Liar: antihierarchical nature of, 108–9, 116–17, 125, 139–41, 174–80; as a contextual solution, 101–6; informal presentation of, 100–12; pragmatic and semantic components of, 118–21
Skyrms, Brian, 184 *n*11
Spade, Paul Vincent, 89, 183 *n*6, 184 *ns*9&11, 191 *n*6, 199 *n*5, 200 *ns*8&10, 201 *ns*13&16, 202 *ns*25&26, 203 *n*34, 204 *n*37, 205 *n*46
stable truth, 15, 64–9; *see also* paradox of stable truth
Strawson's theory of presuppositions, 9, 55
Strengthened Liar, 6–7, 68–9, 72, 96, 97, 101–6, 116, 118, 192–3 *n*24, 196 *n*13, 206 *n*58, 207 *n*64, 208 *n*5, 209 *n*8, 209–10 *n*13, 211 *ns*3&7; *see also* strengthened reasoning
strengthened reasoning, 119–20, 208–9 *n*6, 209 *n*13; *see also* Strengthened Liar
superheterological paradox, 46–7, 52, 54–5; as a diagonal argument, 54
Superliar paradox, 164, 171–4, 181, 182, 213 *n*4
supervaluations, 73, 194 *n*25, 197 *n*24
supposition, 84, 201 *n*18
Swineshead, Roger, 190–1 *n*6, 200 *n*7
symmetrical network, 110–12; $\beta$-level symmetrical network, 135; reflection-



© Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
0521430690 - Universality and the Liar: An Essay on Truth and the Diagonal Argument - Keith Simmons
Index
More information



free symmetrical network, 129; *see also* asymmetrical network
Symmetry, *see* principle of Symmetry

Tarski, Alfred, ix, xi, 11–13, 14–15, 47, 99, 186 *ns*27&37, 187 *n*52, 201 *n*13, 206 *n*53, 214 *n*11
Tarskian hierarchy of languages, x, 8, 12–13, 18, 28, 36, 83, 92, 107; and Herzberger and Gupta, 67–9; and Kripke, 52–3, 191 *n*15, 192–3 *n*24, 195 *n*25; and Ockham–Burley–Pseudo-Sherwood, 97, 201 *n*13, 205 *ns*47&49, 206 *ns*52&53; and Parsons and Burge, 97; and Priest, 80–2; and Rescher and Brandom, 80; and singularity approach, 99–100, 106, 108–9, 116–17, 174–80; *see also* metalanguage; object language; theoretical language
Tarski's schema T, 11–12, 13, 192 *n*20
Tarski's undefinability theorem, ix, x, 18, 19, 20, 27, 36, 52, 66, 179, 189 *n*36; as a diagonal theorem, 18, 36–7
theoretical language, 140–1, 159, 173–181; *see also* metalanguage; object language; Tarskian hierarchy of languages
theory of types, *see* Russell's theory of types
Thomson, J. F., 188 *n*10, 206 *n*63
three-valued logic: Bochvar, 184 *n*11; Kleene, 48, 73, 123, 184 *n*11, 193 *n*25, 210 *n*28; Łukasiewicz, 56, 184 *n*11
tokens and types, 96, 100–1, 113, 120, 164–7, 169, 177
transcasus, 200 *n*7
$true_0$ sentence, 123
$true_1$ sentence, 132
$true_\alpha$ sentence, 138
$true_{obj}$ sentence, 174
$true_{obj+}$ sentence, 177
truth in a context, 15, 163–74
Truth Teller, 3, 67, 103, 120, 132, 191 *n*12, 208–9 *n*6
truth-value gaps, 7, 8–9, 15, 36, 45–7, 58, 59, 83, 97, 184 *n*12, 190 *n*4; and category mistakes, 9, 55; and Kripke 47–8, 52–5, 61, 62; and presuppositions, 9, 55; and vagueness, 9, 56, 72–8
truth-value gluts, 9, 78–82, 83
types, *see* tokens and types

ungrounded ancestor, 155, 156, 169, 214 *n*6
universal truth predicate, 97, 179, 181, 207 *n*74, 210 *n*23, 215 *n*15
universality, 13–15, 19, 46–7, 53, 56, 71, 76, 98, 117, 140, 179–82; *see also* semantic universality
unsettled sentences, 72–5, 78
utterance, *see* sentence

vagueness, *see* truth-value gaps
van Fraassen, Bas, 9, 55, 184 *n*12; *see also* supervaluations
vicious circle principle, *see* Russell's vicious circle principle

Wang, Hao, 187 *n*1
Whitehead, Alfred North, 29
William of Ockham, x, 84–98, 184 *n*9, 186 *n*22, 201 *ns*13&19, 202 *ns*22&23, 202–3 *n*27, 204 *n*44, 204–5 *n*45, 205 *ns*46&47, 205–6 *n*49, 206 *n*58; *see also* Ockham–Burley–Pseudo-Sherwood solution
William of Sherwood, 201 *n*16
Woodruff, Peter, 184 *n*12, 191 *n*13

Yablo, Stephen, 75, 197–8 *n*32, 198 *n*33, 208 *n*6

Zadeh, L. A., *see* fuzzy logic
ZF set theory, 15, 29, 189 *n*31
Ziff, Paul, 186 *n*49, 209 *n*7



© Cambridge University Press www.cambridge.org