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0521430690 - Universality and the Liar: An Essay on Truth and the Diagonal Argument -

Keith Simmons

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This book is about one of the most baffling of all paradoxes – the famous Liar paradox. This paradox is more than an intriguing puzzle, since it turns on our fundamental concepts of truth and falsity. By investigating the Liar, we can hope to deepen our understanding of our basic semantic concepts.

Keith Simmons develops a new account of truth, and a novel ‘singularity’ solution to the Liar. Most contemporary approaches to the Liar either reject classical semantics or adopt a hierarchical view of truth. In contrast, Simmons’s approach is antihierarchical and does not abandon classical semantics. The singularity approach yields a positive resolution of the seemingly intractable problem of semantic universality: Simmons concludes that no semantic concept is beyond the reach of our language.

The book also provides a formal analysis of the method of diagonalization, which lies at the heart of the Liar and the problem of universality. This analysis is utilized in a critical discussion of a wide variety of recent attempts to solve the Liar. Medieval resolutions are also discussed – and one is found to contain the seeds of the singularity proposal.

The book will appeal to logicians and philosophers, as well as linguists and historians of medieval philosophy.

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Universality and the Liar

An essay on truth and the diagonal argument

KEITH SIMMONS

UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL



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Published by the Press Syndicate of the University of Cambridge
The Pitt Building, Trumpington Street, Cambridge CB2 1RP
40 West 20th Street, New York, NY 10011-4211, USA
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

© Cambridge University Press 1993

First published 1993

Library of Congress Cataloging-in-Publication Data

Simmons, Keith.

Universality and the Liar : an essay on truth and the diagonal
argument / Keith Simmons.

p. cm.

Includes bibliographical references.

ISBN 0-521-43069-0 (hc)

1. Liar paradox. 2. Universals (Philosophy) I. Title.
BC199.2.S56 1993
165-dc20 92-28986
CIP

A catalog record for this book is available from the British Library.

ISBN 0-521-43069-0 hardback

Transferred to digital printing 2004

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*To my parents
Amy Simmons and Stanley Simmons
with love and gratitude*

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Preface

Many ways out of the Liar have been proposed over the past twenty-four centuries. But the Liar is more than a fascinating puzzle of long standing. The paradox turns on our most fundamental semantic concepts, most notably that of truth. By investigating the Liar, we can hope to deepen our understanding of the concept of truth and related semantic notions.

This book is about the Liar. It is also about the problem of universality. The problem is this: is a natural language like English universal in the sense that it can say everything there is to say? Or are there concepts beyond the reach of English, rendering it expressively incomplete? In particular, we can ask whether English is *semantically* universal; whether, that is, it can express every semantic concept. Ever since Tarski, the Liar and the problem of semantic universality have been linked. In my view, they are at root the same.

There is another closely related theme that runs through the book: the method of diagonalization. The diagonal argument is a method of argument that establishes some fundamental theorems of mathematical logic. Yet the diagonal argument also generates certain paradoxes. For example, in 1936 Tarski used the method of diagonalization to prove that classical formal languages are *not* semantically universal: no such language can express its own concept of truth. And yet it is also a diagonal argument that generates versions of the Liar paradox. Diagonalization is at the heart of the Liar and the problem of universality.

In this book, I provide a systematic treatment of the Liar, the problem of universality, and the diagonal argument. In Chapter 1, I present a taxonomy of versions of the Liar and a survey of proposed solutions, drawing on ancient, medieval, and contemporary sources. I go on to introduce the notions of universality and semantic universality, and the method of diagonalization.

In Chapter 2, I present an original analysis of the diagonal argument. Diagonal arguments are found in various areas of mathematical logic and

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are also associated with semantic and set-theoretic paradoxes. My general analysis makes it clear what these arguments have in common. It also answers a question raised by Russell, among others: why do some diagonal arguments establish theorems, while others generate paradoxes? My answer provides a characterization of *good* diagonal arguments (those leading to theorems, like Tarski's theorem and Gödel's first incompleteness theorem) and *bad* diagonal arguments (those leading to paradoxes, like the heterological paradox and Russell's paradox).

In Chapters 3 and 4, my analysis of the diagonal argument is then brought to bear on a number of leading contemporary solutions to the Liar. I argue that good diagonal arguments demonstrate, in a systematic way, the inadequacy of the disparate approaches taken by Kripke (and truth gap theorists in general), Herzberger, Gupta, Feferman, McGee, and Rescher and Brandom. The good diagonal arguments that tell against these theories yield results of expressive incompleteness. This may suggest that natural languages are *not* universal, that expressive incompleteness is just the lesson that the Liar teaches. I argue that this line, advanced by Herzberger, turns on a bad diagonal argument. One of my major aims in these critical investigations is to uncover criteria of adequacy for any solution to the Liar.

In Chapters 5 through 9, I develop a new proposal, a *singularity* solution to the Liar. One leading idea of the proposal is that 'true' is a context-sensitive expression, shifting its extension according to context. This feature of my approach places it in the category of *contextual* solutions to the Liar, along with the recent influential proposals of Parsons, Burge, Gaifman, and Barwise and Etchemendy. There is, however, a fundamental difference. These other contextual approaches all appeal to a hierarchy, analogous to Tarski's hierarchy of formal languages. I argue (in Chapters 6 and 9) that this kind of Tarskian approach is inappropriate where natural language is concerned. In contrast, the singularity proposal makes no appeal to a hierarchy: there is no splitting of 'true' into a series of increasingly comprehensive predicates, no splitting of English into a hierarchy of languages. According to the singularity proposal, there is in English a single, context-sensitive truth predicate. And a given use of 'true' applies to all the truths, except for certain *singularities* – sentences to which the given use does not apply truly or falsely.

In Chapter 5, I discuss in detail a medieval resolution to the Liar found in the writings of Ockham, Burley, and Pseudo-Sherwood. On my interpretation, this resolution contains a number of suggestive, if undeveloped, ideas. In Chapter 6, I present and defend the main ideas of the singularity proposal. In Chapter 7, I provide a formal account of truth. In Chapter 8, I apply the formal account to a wide variety of Liar-like

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examples drawn from Chapter 1. I also investigate further the singularities of a given use of ‘true’.

Finally, in Chapter 9, I return to the problem of universality. I argue that the singularity proposal satisfies the criteria of adequacy developed earlier. In particular, I argue that my proposal does justice to Tarski’s intuition that natural languages are semantically universal, in a way that is not undermined by diagonal arguments. I show that the singularity theory can accommodate not only our ordinary uses of ‘true’, but also the very semantic notions in which the theory is couched: the notions of *groundedness*, *truth in a context*, and *singularity*. Moreover, on the singularity account, the language of the theory does not stand to the object language as Tarskian metalanguage to object language. Indeed, an ordinary use of ‘true’ in the object language includes in its extension the sentences of the theory, since these theoretical sentences are not identified as singularities. I conclude that the singularity theory respects the intuition that a natural language like English is semantically universal.

I have been helped by many people in the course of writing this book, and it’s a pleasure to acknowledge them here. My earliest debt is to W. D. Hart, who was my M. Phil. adviser at University College, London. He was an inspiring teacher – and continues to be a valuable critic. I also would like to thank my dissertation advisers at UCLA, especially D. A. Martin, Tyler Burge, Marilyn Adams, and David Kaplan. They were very generous with their help, and I learned a great deal from all of them. I was fortunate to be a graduate student at UCLA.

Versions of nearly every part of the book have been given at various colloquiums and conferences. An early version of Chapter 5 was given at the 1985 International Conference on the Philosophy of William of Ockham, St. Bonaventure University. A condensed version of Chapters 2, 3, 4, and 6 was presented at the Central American Philosophical Association, at the Logic Colloquium, SUNY Buffalo, and at a number of philosophy department colloquiums, including Carnegie Mellon and the University of North Carolina, Chapel Hill. A shortened version of Chapters 6, 7, and 9 was presented at the Pacific American Philosophical Association, at the *Logica 91* International Conference on Logic in Czechoslovakia, and at the University of Rochester. I’ve benefited from all these occasions – and I’ve tried to acknowledge individual debts in the text. But Calvin Normore deserves a special mention here.

Thanks also to my colleagues at Chapel Hill. Mike Resnik has read different drafts of various chapters, and his comments have led to significant improvements. And I’ve had a number of useful exchanges with Bill Lycan. The members of my graduate seminar on the paradoxes suggested

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various improvements to the final draft. And thanks to David Bain for his editorial assistance. I have greatly valued the collegial and supportive atmosphere here at Chapel Hill.

My greatest debt, though, is to Dorit Bar-On, for more than ten years of intellectual and moral support.

I am grateful to Kluwer Academic Publishers and to Taylor and Francis for their permission to use copyrighted material.

Chapel Hill, North Carolina

Fall 1992