## An Introduction to Design Arguments

The history of design arguments stretches back to before Aquinas, who claimed that things which lack intelligence nevertheless act for an end to achieve the best result. Although science has advanced to discredit this claim, it remains true that many biological systems display remarkable adaptations of means to ends. Versions of design arguments have persisted over the centuries and have culminated in theories that propose an intelligent designer of the universe. This volume is the only comprehensive survey of 2,000 years of debate, drawing on both historical and modern literature to identify, clarify, and assess critically the many forms of design argument for the existence of God. It provides a neutral, informative account of the topic from antiquity to Darwin, and includes concise primers on probability and cosmology. It will be of great value to upper-level undergraduates and graduates in philosophy of religion, theology, and philosophy of science.

BENJAMIN C. JANTZEN is Assistant Professor of Philosophy at Virginia Tech. He has published papers in journals including *Proceedings of the National Academy of Sciences, Biophysical Journal, Philosophy of Science, and Synthese.* His work on formal methods in the philosophy of religion has been published in *Transactions of the Charles S. Peirce Society* and in the anthology *Probability in the Philosophy of Religion* (2012).

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BENJAMIN C. JANTZEN Virginia Tech





University Printing House, Cambridge CB2 8BS, United Kingdom

Published in the United States of America by Cambridge University Press, New York

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org Information on this title: www.cambridge.org/9780521183031

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First published 2014

Printed in the United Kingdom by Clays, St Ives plc

A catalogue record for this publication is available from the British Library

Library of Congress Cataloguing in Publication data Jantzen, Benjamin C., 1977– An introduction to design arguments / Benjamin C. Jantzen. pages cm Includes bibliographical references and index. ISBN 978-1-107-00534-1 (hardback) – ISBN 978-0-521-18303-1 (pbk.) 1. Teleology. I. Title. BD531.J36 2014 124–dc23 2013036672

ISBN 978-1-107-00534-1 Hardback ISBN 978-0-521-18303-1 Paperback

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## Preface

This book is a critical survey of *design arguments*, attempts to infer the existence of a God or gods by demonstrating the likely role of intelligence in shaping the world of experience. By critical, I do not mean polemical. What follows is not an attempt to dismiss design arguments as categorically misguided or ill-conceived. Nor is it a religious apologetic. Rather, it is intended to be a neutral philosophical reconstruction and analysis of the entire field of design arguments advanced from the rise of Western philosophy in ancient Greece to the present day.

The treatment of this material is introductory in a couple of ways. As with any introduction to a field of study, I have sacrificed some depth in favor of breadth in order to give the reader a coherent picture of the entire landscape of the design debate. My aim is in part to provide a synopsis of a long philosophical conversation so that someone interested in working on the philosophical puzzles surrounding design arguments can jump right in. The book does not assume that the reader is familiar with the jargon of academic philosophy or has had any formal training in the analysis of arguments, and so can serve as the basis for an introductory course in philosophy or critical thinking.

There are, however, a number of ways in which this book goes beyond a mere introduction to its subject. To begin with, no one has attempted a comprehensive survey of design arguments since L. E. Hicks published his wonderful book, *A Critique of Design-Arguments*, in the late nineteenth<sup>-</sup> century. While I do not pretend to have a written a book as clever and engaging as Hicks', the survey that follows may nonetheless serve as a guide and reference for scholars actively working in the field. Furthermore, it is my hope that such breadth has not come at the cost of philosophical rigor. I offer many critiques and analyses that do not appear elsewhere. These include interpretations of the work of William Paley in Chapter 8,

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a review of modern concepts of complexity in Chapter 14, a rebuttal of the objection from 'Observation Selection Effects' in Chapter 18, and an assessment of the metaphysical assumptions implicit in fine-tuning arguments, also in Chapter 18.

The intended audience for this book is broad and varied. The book emerged from an undergraduate course I developed at Carnegie Mellon University. The course offered undergraduates an introduction to philosophical reasoning and argument analysis in the context of the pursuit of a single question: can we infer the existence of God from empirical evidence of intelligent agency? Aside from addressing a neglected philosophical issue of deep importance to many, such a course offered the best of both worlds for an introductory course: the chance to engage deeply with a single complex issue and, at the same time, to gain experience with many different argument strategies. After all, for virtually every argument form that bears a name, someone has offered a corresponding design argument. This book is the textbook I wish I had available for that course. Thus, my intended audience includes undergraduate students and the instructors who may wish to offer such a course. At the same time, each chapter, particularly those concerning modern arguments, is a review of the current state of the art. As such, graduate students and professional philosophers should find the discussion and the list of references sufficiently rich to guide further research into the topic. Finally and perhaps most importantly, I offer this book to the general public. Interest in the question of whether one can establish the existence of a deity on the basis of experience extends well beyond the academy and those for whom philosophy is a vocation. I have tried to provide enough background information to make this text accessible to anyone with such an interest.

As a guide to the reader or course instructor, I'd like to point out some features of the book's structure. The text divides into two parts. The first ten chapters are dedicated to searching out design arguments in the historical record from antiquity through the introduction of Darwin's theory of natural selection in the mid nineteenth century. There was a more or less continuous philosophical debate over design spanning this period, and the aim of the first part of the book is to carefully reconstruct from this conversation as many types of design argument as possible, catalogue the criticisms and rebuttals offered by historical figures, and assess each type of argument in light of modern empirical knowledge. I want to make

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the strongest case possible for design, and this means exploring all available options. To determine what these options are, the historical record is treated as a great repository of possible argument strategies. The second half of the book examines closely those design arguments that have been advanced and debated in the modern literature. These arguments make frequent and essential use of formal tools such as probability theory, and appeal to the details of complex contemporary physical theories. For these reasons, the material in this portion of the book, though I present it without assuming any particular expertise on the part of the reader, is generally more challenging.

There are quite a few people from whom I and this book have benefited greatly, and they deserve to be recognized. I would first like to thank the Philosophy Department at Carnegie Mellon University (CMU), especially Richard Scheines and Mara Harrell, for giving me the opportunity and resources to develop and implement the undergraduate course out of which this book ultimately developed. And, of course, I am grateful to the students who participated in "Life, the Universe, and God" on the two occasions it was offered at CMU (in the spring of 2009 and 2011). Their enthusiasm, searching questions, and criticisms played a substantial role in shaping this book. I am also indebted to Walter Ott, Clark Glymour, the students of "God in the West" (CMU, fall 2013), Robert Camp, Kristina Jantzen, Ronald Jantzen, and an anonymous reviewer for Cambridge University Press for helpful discussion and critical comments on portions of the manuscript. Timothy Graham is due special thanks for his assistance in indexing this text. I am grateful as well for the editorial efforts of Hilary Gaskin. In addition to the essential role she played in getting this book published, her suggestions about structure and tone were astute, and made this book much better than it might have been. Thanks also to Anna Lowe, especially for her patience with my frequent delays in turning over materials. The input from all of these people has shaped this book in important ways for the better, and all of the errors and defects of fact, reason, or judgment that remain are, of course, solely my responsibility.

With regard to the role others have played in producing this book, I would like to emphasize the special contribution that Robert Camp has made. His original black-and-white illustrations are scattered throughout the chapters that follow. Their value is threefold. Pragmatically speaking, they are essential tools for clarifying concisely some of the difficult concepts

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encountered in this text. His drawing of the Antikythera Mechanism, for instance, is surely worth a thousand words. Second, these beautifully rendered drawings grace the text with an aesthetic value that is rare in modern academic work. They are a joy to look at. Finally, the drawings provide a visceral connection to a time when natural history and natural science were illustrated with the pen, not the computer. The practice of natural history illustration is deeply interwoven with the rise and development of natural science and of design arguments.

Finally, I offer my most profound gratitude to my wife, Dr. Parisa Farhi. Without her support, neither the original university course on design arguments nor this book would have been possible.