

Methods of Argumentation

Argumentation, which can be abstractly defined as the interaction of different arguments for and against some conclusion, is an important skill to learn for everyday life, law, science, politics and business. The best way to learn it is to try it out on real instances of arguments found in everyday conversational exchanges and legal argumentation. The introductory chapter of this book gives a clear general idea of what the methods of argumentation are and how they work as tools that can be used to analyze arguments. Each subsequent chapter then applies these methods to a leading problem of argumentation. Today the field of computing has embraced argumentation as a paradigm for research in artificial intelligence and multi-agent systems. Another purpose of this book is to present and refine tools and techniques from computing as components of the methods that can be handily used by scholars in other fields.

Douglas Walton currently holds the Assumption Chair in Argumentation Studies and is Distinguished Research Fellow of the Centre for Research in Reasoning, Argumentation and Rhetoric at the University of Windsor, Canada. His most recent book is *Argumentation Schemes*, coauthored with Chris Reed and Fabrizio Macagno (Cambridge University Press, 2008). Walton's work has been used to better prepare legal arguments and to help develop artificial intelligence. His books have been translated worldwide, and he attracts students from many countries to study with him.





Methods of Argumentation

DOUGLAS WALTON

University of Windsor, Canada





CAMBRIDGE UNIVERSITY PRESS

32 Avenue of the Americas, New York, NY 10013-2473, USA

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/9781107677333

© Douglas Walton 2013

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2013

Printed in the United States of America

 $\label{lem:analytication} A\ catalog\ record\ for\ this\ publication\ is\ available\ from\ the\ British\ Library.$

Library of Congress Cataloging in Publication data Walton, Douglas N.

 $Methods\ of\ argumentation\ /\ Douglas\ Walton,\ University\ of\ Windsor,\ Canada.$

pages cm

Includes bibliographical references and index.

ISBN 978-1-107-03930-8 (hardback) – ISBN 978-1-107-67733-3 (paperback)

1. Reasoning. I. Title. BC177.W3247 2013 168–dc23 2013015608

ISBN 978-1-107-03930-8 Hardback ISBN 978-1-107-67733-3 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.



For Karen, with love





Contents

Acknowledgments			age xi	
1	Intr	roducing Some Basic Concepts and Tools	1	
	1.	Logical Argumentation as a Distinctive Theory	2	
	2.	The Methods and the Theory	4	
	3.	Argumentation Schemes	6	
	4.	Dialectical Structure	7	
	5.	Rationale and Araucaria	10	
	6.	An Example of Refutation	14	
	7.	The ArguMed System	16	
	8.	The Carneades Argumentation System	17	
	9.	Conclusions	21	
	10.	Problems Investigated Next	22	
2	Argument Attack, Rebuttal, Refutation and Defeat 27			
	1.	Questions about Attack, Rebuttal, Objection and Refutation	28	
	2.	Abstract Argumentation Frameworks	33	
	3.	Socratic Refutation Dialogues	37	
	4.	Internal and External Refutation	41	
	5.	Argumentation Schemes and Critical Questions	44	
	6.	Managing Critical Questions with Carneades	46	
	7.	How Carneades Models Attacks and Rebuttals	52	
	8.	How Carneades Models Relevance	55	
	9.	Classifying Objections, Rebuttals and Refutations	57	
3	Arg	ruments with Missing Parts	. 63	
	1.	Survey of the Recent Literature on Enthymemes	64	
	2.	Historical Background on the Enthymeme	69	
	3.	A Reorientation of the Problem	71	



vii	ii <i>Contents</i>		
	 The Free Animals Example The Global Warming Example The Yogurt Example The Signal Light Example Lessons Learned from the Examples Refining the Notion of an Argument Conclusions 	73 76 78 82 86 88	
4	Applying Argumentation Schemes	93	
	 Teaching Students of Informal Logic How to Identify Arguments Review of Argumentation Schemes Schemes for Practical Reasoning and Arguments from Consequences The Sunk Costs Argument Slippery Slope Arguments Classification of Schemes Research on Argument Mining in Artificial Intelligence Identification Requirements for Types of Arguments Argument Mining as an Informal Logic Method Conclusions 	94 97 101 104 107 109 112 115 119	
5	Similarity, Precedent and Argument from Analogy	122	
	 The Wild Animal Cases and the Baseball Case Arguments from Analogy and Precedent in Law Arguments from Classification and Definition Similarity Scripts and Stories Modeling the Sequence Template as a Story Scheme Dialectical Aspects of Argument from Analogy Two Other Test Cases and Their Implications Reconfiguring the Schemes Conclusions 	123 125 130 133 136 138 140 143 147	
6	Teleological Argumentation to and from Motives	154	
	 Some Short Examples and an Introductory Survey Relevance of Motive Evidence and Character Evidence Inference to the Best Explanation Stories and Explanations Who Shot the Sheriff? Going from Argument to Explanation to Motive Matters of Argument Evaluation Wigmore's Theory 	155 159 160 162 165 168 170 175	



	Contents	ix
	9. Framework of Motive Evidence	176
	10. Conclusions and Further Research Directions	178
7	The Carneades Model of Scientific Discovery and Inquiry	181
	1. The Carneades Argumentation System	182
	2. The Cure for Anemia Case	186
	3. Causal Argumentation	188
	4. Inquiry Dialogue	190
	5. Peirce and Popper on the Inquiry	194
	6. The Carneades Model of Inquiry	196
	7. Discovery Dialogue	199
	8. Dialectical Shifts	202
	9. Burdens and Standards of Proof	205
	10. Conclusions	209
8	Fallacies, Heuristics and Sophistical Tactics	212
	1. Theories of Fallacy	213
	2. Argumentation Schemes and Fallacies	220
	3. Defeasible Reasoning	223
	4. Default Logics	226
	5. Dialogue Systems and Fallacies	230
	6. Profiles of Dialogue	234
	7. Dialogue Conditions for Defeasible Arguments	237
	8. The Fallacy of Secundum Quid	240
	9. Lack of Knowledge Inferences	243
	10. Conclusions	246
9	The Straw Man Fallacy	249
	1. What Is the Straw Man Fallacy?	250
	2. The Beer and Wine Example	255
	3. The School Prayer Example	256
	4. Some Other Kinds of Examples	260
	5. Rules for Determination of Commitment in Dialogue	263
	6. Commitment Query Inference Engines	267
	7. Looking at the Text and Context of Cases	272
	8. Additional Components of the Commitment Search Tool	276
	9. Are There Variants of the Straw Man Fallacy?	281
	10. Other Fallacies Related to Straw Man	285
Bi	Bibliography	
In	odex	299





Acknowledgments

I would like to acknowledge support for the work in this book from Social Sciences and Humanities Research Council of Canada Insight Grant 435-2012-0104. For comments received when material in some chapters of the book was presented at meetings of the Centre for Research in Reasoning, Argumentation and Rhetoric, I would like to thank J. Anthony Blair, Marcello Guarini, Hans V. Hansen, Catherine Hundelby, Ralph Johnson, Robert C. Pinto and Christopher W. Tindale. I would also like to thank Floris Bex, Thomas F. Gordon, Fabrizio Macagno and Henry Prakken for discussions that helped to refine formulations of my views in some chapters and correct some errors in them. An earlier version of Chapter 8 was read to the Department of Theoretical Philosophy at the University of Groningen on September 29, 2011. I would like to thank the following participants for comments and discussions: Barteld Kooi, Erik Krabbe, Henry Prakken, Allard Tamminga, Jan Albert van Laar, Rineke Verbrugge, Bart Verheij and Jean Wagemans.

Five of the chapters of this book are based on papers previously published in refereed journals. These five papers have been substantially revised, updated and edited. The editing work has included the addition of new material to these chapters, as well as deletion of some material and distribution of other material between one chapter and another. Permission to reprint each of them has been obtained from the copyright owner. Chapter 2 is based on the paper 'How to Refute an Argument Using Artificial Intelligence', originally published in *Studies in Logic, Grammar and Rhetoric*, 23(36), 2011, 123–154. Chapter 4 is based on the paper 'Argument Mining by Applying Argumentation Schemes', originally published in *Studies in Logic*, 4(1), 2011, 38–64. Chapter 5 is based on the paper 'Similarity, Precedent and Argument from Analogy', originally published in *Artificial Intelligence and Law*, 18 (3), 2010, 217–246. Chapter 6 is based on the paper 'Teleological Argumentation to and from Motives', originally published in *Law*, *Probability and Risk*, 10, 2011, 203–223. Chapter 8 is based on the



xii

Acknowledgments

paper 'Defeasible Reasoning and Informal Fallacies', originally published in *Synthese*, 179(3), 2011, 377–407. For help with indexing, proofreading and improving some of the figures, I would like to thank (respectively) Rita Campbell, Lynn Fraser and Mike Busuttil.

D.W.