Contents

List of Figures and Tables

Acknowledgments

Introduction ....................................... 1
  1. Purpose of the Book 2
  2. Outline of the Book 5

1 Witness Testimony as Argumentation ............... 12
  1. Witness Testimony in Logic and Philosophy 13
     1.1 Contemptuous Attitude toward Testimony as Evidence 13
     1.2 Seeking a Rational Basis for Testimony 15
  2. Appeal to Witness Testimony as a Form of Argument 17
     2.1 Proof and Argument 19
  3. Witness Credibility 20
     3.1 Ad Hominem Attacks 22
     3.2 Character and Reputation 23
  4. Witness Testimony as Fallible Evidence 24
     4.1 Cases of Testimony Gone Wrong 24
     4.2 Categories of Failure 28
  5. Defeasible Arguments 29
     5.1 Types of Arguments and Generalizations 29
     5.2 The Tentative Nature of Defeasible Arguments 32
  6. Corroboration of Witness Testimony 33
  7. Argumentation Schemes for Position to Know Arguments 37
     7.1 Arguments from Expert Opinion 40
  8. The Form of Appeal to Witness Testimony as an Argument 43
     8.1 Strict and Defeasible Modus Ponens Arguments 46
  9. Factors in Evaluating Witness Testimony 48
# Contents

9.1 Other Systems 49  
9.2 Fact and Opinion 51  
9.3 Perception and Memory 52  
10. The Argumentation Scheme and Critical Questions 56  
10.1 Full Form of the Scheme and Critical Questions 60  

## 2 Plausible Reasoning in Legal Argumentation 62

1. Chaining of Plausible Reasoning in Evidence 63  
   1.1 Wigmore’s Theory of Evidence 65  
2. Legal and Historical Background of Plausible Reasoning 67  
   2.1 The Eikotic Argument 68  
   2.2 Carneades’ Example of the Snake and Rope 71  
   2.3 Plausible Reasoning in a Trial 72  
3. Diagramming Witness Testimony as Evidence 73  
   3.1 The Assault Example 74  
   3.2 The Arson Example 77  
4. Linked and Convergent Arguments 80  
5. Convergence, Corroboration, and Credibility 82  
   5.1 Examples of Evidence as Corroboration and Convergence 84  
   5.2 Credibility Corroboration Evidence 86  
6. Diagrams, Plausible Generalizations, and Enthymemes 88  
   6.1 Analysis of a Homicide Case 90  
7. Evaluating Plausible Reasoning 92  
   7.1 Rescher’s System 93  
   7.2 Theophrastus’ Rule and the Weakest Link Principle 96  
   8.1 Summary of the Evaluation Method 102  

## 3 Scripts, Stories, and Anchored Narratives 105

1. Scripts and Stories 105  
   1.1 Missing Information in a Story 106  
   1.2 What Makes a Story Plausible? 108  
2. Anchoring and Plausibility of Stories 109  
   2.1 Testing a Story by Critically Examining It 111  
3. Components of a Story 114  
   3.1 Practical Reasoning in Stories 114  
   3.2 Explaining Goal-Directed Actions 118  
4. Corroboration of Witness Testimony 120  
   4.1 Attacking the Plausibility of a Story 122  
   4.2 The Process of Examining a Story 123  
5. The Whole Truth 125  
   5.1 Competing Stories 126
## Contents

6. Nonexplicit Assumptions in a Story .......................... 128
   6.1 Use of an Argumentation Scheme ..................... 129

7. Using Conclusions Drawn from the Story .................... 130
   7.1 Assembling the Evidence .................................. 131

8. Enthymemes ....................................................... 133
   8.1 Use of Gricean Implicature ............................... 134
   8.2 Use of Common Knowledge ............................... 136
   8.3 Probing to Reveal Unstated Assumptions ................. 137

9. Plausible Reasoning as a Tool for Testing Testimony .... 139
   9.1 The Adversarial Context of Legal Examination .......... 139
   9.2 Obtaining Reliable Information .......................... 143

10. A New Approach .................................................. 145
    10.1 Argumentation and Artificial Intelligence ............... 146
    10.2 Turning to a Dialogue Model ............................ 149

4 Computational Dialectics ......................................... 151
   1. Fundamental Notions ......................................... 152
      1.1 Ordered Sequences of Moves in a Dialogue ............ 152
      1.2 Moves as Speech Acts .................................... 156
   2. Types and Goals of Dialogues ............................... 157
      2.1 Dialectical Shifts ........................................ 162
      2.2 Dialogue Models of Legal Argumentation .......... 164
   3. Commitment Sets .............................................. 166
      3.1 Retraction of Commitments ............................... 167
      3.2 Inconsistent Commitments ............................... 168
      3.3 Commitment and Belief Models ......................... 170
   4. Dialogue Rules and Dialectical Relevance .................. 171
      4.1 Admissibility and Relevance in a Trial ................ 172
   5. Persuasion Dialogue .......................................... 175
      5.1 Critical Discussion ....................................... 176
   6. Profiles of Dialogue ......................................... 179
   7. Multiagent Systems ........................................... 182
      7.1 Reputation Management in Multiagent Systems ........ 183
   8. Dishonesty and Character Attack ............................ 185
      9.1 Metadialogues ............................................. 189
   10. Applying Dialogue Systems to Legal Argumentation .... 190

5 Witness Examination as Peirastic Dialogue ................... 194
   1. Information-Seeking Dialogue ............................... 195
      1.1 Types of Information-Seeking Dialogue ............. 196
   2. What Is Information? ......................................... 200
      2.1 The Positivistic View .................................... 200
      2.2 A Multiagent View ....................................... 202
2.3 Usefulness and Reliability of Information 205
3. Information Seeking in a Trial 206
  3.1 Redefining Information 207
4. Examination Dialogue 210
  4.1 Examination in Ancient Dialectic 211
  4.2 Examination Dialogue in Artificial Intelligence 212
5. Peirastic and Exetastic Dialogue 213
  5.1 Critiquing Dialogue in Computing 216
  5.2 Attacking the Credibility of a Witness 218
6. Examination in a Trial Setting 221
  6.1 Example of Critical Examination of Witness Testimony 221
  6.2 Embedding of Information Seeking 223
7. Cross-Examination 224
  7.1 Order of Asking Questions 225
  7.2 Winning Strategies of Cross-Examination 226
8. The Purpose of Cross-Examination 229
  8.1 The Limits of Dirty Tricks 231
9. Interrogation as a Type of Dialogue 233
  9.1 Rules for Interrogation Dialogue 234
  9.2 Interrogation Contrasted with Examination 237
10. Classifying and Defining Peirastic Examination Dialogue 238
    10.1 Classification System for Examination Dialogue 239
    10.2 Goal and Rules of Peirastic Examination Dialogue 241
6 Applying Dialectical Models to the Trial ................. 244
  1. The Advocacy Framework of the Trial ............... 245
    1.1 The Function of Witness Testimony in the Trial 247
  2. Three Components of the Trial 251
    2.1 An Objection and a Reply 251
    2.2 The Viewpoint of the Trier 256
  3. How Evidence Comes into a Trial 257
    3.1 Questioning a Witness 258
  4. Argumentative Nature of Witness Examination 261
    4.1 Leading Questions 262
  5. Questioning an Expert Witness 264
    5.1 Expert Consultation Dialogue 266
    5.2 Embedding of Information in Persuasion 267
  6. The Problem of Analyzing Relevance 269
    6.1 Relevance and the Trial Rules 270
    6.2 Peirastic Relevance 273
  7. The Fair Trial as a Normative Model 278
    7.1 The Adversarial and Inquisitorial Systems Compared 279
    7.2 Can a Trial Be Too Adversarial? 280
## Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.3</td>
<td>Information Seeking in the Fair Trial</td>
<td>282</td>
</tr>
<tr>
<td>8.</td>
<td>Balance between Persuasion and Information in a Trial</td>
<td>286</td>
</tr>
<tr>
<td>8.1</td>
<td>Reasoned Argumentation in a Fair Trial</td>
<td>286</td>
</tr>
<tr>
<td>9.</td>
<td>The Dialectical Structure of the Trial</td>
<td>289</td>
</tr>
<tr>
<td>9.1</td>
<td>Sequence of Dialogue Embeddings in the Trial</td>
<td>290</td>
</tr>
<tr>
<td>9.2</td>
<td>Summary of the Dialectical Model of the Trial</td>
<td>292</td>
</tr>
<tr>
<td>7</td>
<td>Supporting and Attacking Witness Testimony</td>
<td>296</td>
</tr>
<tr>
<td>1.</td>
<td>Corroborative Evidence</td>
<td>297</td>
</tr>
<tr>
<td>1.1</td>
<td>The Fallacy of Double Counting</td>
<td>299</td>
</tr>
<tr>
<td>1.2</td>
<td>A New Scheme for Corroborative Evidence</td>
<td>300</td>
</tr>
<tr>
<td>2.</td>
<td>New Computational Systems for Legal Argumentation</td>
<td>303</td>
</tr>
<tr>
<td>2.1</td>
<td>The DefLog System</td>
<td>304</td>
</tr>
<tr>
<td>2.2</td>
<td>The Carneades System</td>
<td>306</td>
</tr>
<tr>
<td>2.3</td>
<td>Schemes and Critical Questions in Carneades</td>
<td>308</td>
</tr>
<tr>
<td>3.</td>
<td>Witness Testimony in Carneades</td>
<td>311</td>
</tr>
<tr>
<td>3.1</td>
<td>The Scheme and the Critical Questions</td>
<td>312</td>
</tr>
<tr>
<td>3.2</td>
<td>Corroborative Testimony in Carneades</td>
<td>314</td>
</tr>
<tr>
<td>3.3</td>
<td>Further Research on Carneades</td>
<td>316</td>
</tr>
<tr>
<td>4.</td>
<td>Asking of Questions in Examination Dialogue</td>
<td>317</td>
</tr>
<tr>
<td>4.1</td>
<td>Profiles of Dialogue</td>
<td>320</td>
</tr>
<tr>
<td>4.2</td>
<td>Three Levels of Questioning</td>
<td>321</td>
</tr>
<tr>
<td>5.</td>
<td>Questioning Skills in Information-Seeking Dialogue</td>
<td>323</td>
</tr>
<tr>
<td>5.1</td>
<td>Types of Questions and Replies</td>
<td>323</td>
</tr>
<tr>
<td>5.2</td>
<td>Leading Questions</td>
<td>324</td>
</tr>
<tr>
<td>6.</td>
<td>Questioning and Answering in the Interrogation</td>
<td>327</td>
</tr>
<tr>
<td>6.1</td>
<td>Types of Questions in Interrogation Dialogue</td>
<td>327</td>
</tr>
<tr>
<td>6.2</td>
<td>Loaded Questions</td>
<td>328</td>
</tr>
<tr>
<td>7.</td>
<td>Uses of the New Peirastic Theory</td>
<td>330</td>
</tr>
<tr>
<td>7.1</td>
<td>Three Applications</td>
<td>331</td>
</tr>
<tr>
<td>7.2</td>
<td>Dealing with Unreliable Witness Testimony</td>
<td>333</td>
</tr>
<tr>
<td>8.</td>
<td>Summary of the Theory</td>
<td>335</td>
</tr>
<tr>
<td>8.1</td>
<td>The Eight Steps in the Method</td>
<td>335</td>
</tr>
</tbody>
</table>

- **Bibliography** | 339 |
- **Index** | 353 |