### **Contents**

### Preface xi

Introduction: Thinking Logically—What Is It? 1

Notes 5

### 1 Basic Concepts for Appreciating Language 6

1.1 The Three Basic Functions of Language 6

How do we recognize whether a message is informative, expressive or directive? 7

What are some specific ways for language to express or arouse emotion? 10

Why is the informative/expressive/directive distinction important for the logical thinker? 16

Summary 17

Exercise 1-I 18

Exercise 1-II 18

Exercise 1–III 20 Exercise 1–IV 22 Exercise 1–V 23

1.2 Problems with Meaning 27

Further problems with meaning—vagueness and ambiguity 29 Exercise 1-VI 32 Exercise 1-VII 33

1.3 Recognizing Arguments 34

What is an argument? 35
How do we distinguish arguments from expositions? 37
Summary 43
Exercise 1-VIII 43
Exercise 1-IX 44
Exercise 1-X 45

1.4 Persuading Versus Logically Convincing 48

For Further Reading 51

Notes 52

### 2 Emotional Appeals 54

- 2.1 Appeals to Positive Emotions 56

  Exercise 2–I 61
- 2.2 Appeals to Negative Emotions 67

  Exercise 2–II 76

For Further Reading 82

Notes 83

### 3 Argument Structure 84

3.1 Three Types of Argument Structure: Convergent, Serial, and Divergent 86

Summary 93
Exercise 3–I 93

3.2 A Fourth Type of Argument Structure: Linked 97

Summary 103
Exercise 3–II 103

3.3 Modalities 106

Summary 110
Exercise 3–III 111

3.4 Arguments with Mixed Structure 112

Exercise 3-IV 119

For Further Reading 125

Notes 126

### 4 Analyzing Arguments 127

4.1 Diagramming Arguments in Natural Language 128

The five-step procedure 128
Points for special care 136
Summary 140
Exercise 4–I 141

4.2 Argument Diagrams and Argument Evaluation 149

For Further Reading 150

Notes 150

# Argument Evaluation I—Are the Premises Acceptable? 151

- 5.1 Burden of Proof and Presumption 152
- 5.2 Determining Presumption 155

Sources for determining presumption 156 Summary 160 Exercise 5–I 160

	5.	3	<b>Evaluating</b>	Personal	Testimony	163
--	----	---	-------------------	----------	-----------	-----

Descriptions, interpretations, evaluations 163
Personal testimony and descriptions 167
Reports involving interpretations 168
Problems with personal testimony 169
Summary 172
Exercise 5–II 172
Exercise 5–III 174

- 5.4 Appraising Expert Opinion 177

  Exercise 5–IV 178
- 5.5 Further Problems with Premises 180

  Exercise 5-V 183
- 5.6 The Problem of False or Questionable Premise 183

  Exercise 5-VI 186
- 5.7 Particular Fallacies Involving Dubious Assumptions 188

Exercise 5-VII 193

For Further Reading 195

Notes 195

# 6 Argument Evaluation II—Problems with Relevance 197

- 6.1 The Problem of Irrelevant Reason 197

  Exercise 6–I 201
- 6.2 Special Fallacies of Relevance 203

  Exercise 6–II 210

For Further Reading 212

Notes 213

# 7 Argument Evaluation III—Judging the Weight of the Evidence 214

7.1 Induction and Deduction 215

Summary 218
Exercise 7–I 218

7.2 Comparing Arguments for Inductive Strength 220

Summary 227
Exercise 7–II 227

7.3 Rebuttals and Counterrebuttals 230

Summary 235
Exercise 7–III 236
Exercise 7–IV 237

- 7.4 The Fallacy of Hasty Conclusion 240

  Exercise 7-V 243
- 7.5 Some Inductive Fallacies 246

  Exercise 7-VI 260

For Further Reading 263

Notes 263

## 8 Appraising Deductive Arguments 265

8.1 The Basic Concept 266

Summary 275
Exercise 8–I 276
Exercise 8–II 277

8.2 Some Basic Deductive Forms 278

Summary 285 Exercise 8–III 286 Exercise 8–IV 286 8.3 Arguments Involving Assumptions 287

Conditional argument strategy 288

The strategy of reduction to absurdity 291

Exercise 8-V 292

For Further Reading 295

Notes 295

### 9 Overall Argument Evaluation 296

- 9.1 Evaluating Simple Arguments 297

  Exercise 9–I 298
- 9.2 Evaluating Compound Arguments 300

  Exercise 9–II 303

For Further Reading 312

Notes 312

#### Index 313