

CONTENTS

<i>Preface</i>	vii
1 LANGUAGE, MIND, AND MACHINES	1
1 <i>Introduction</i>	1
2 <i>The notion of natural language</i>	4
3 <i>Conceptual investigation</i>	7
4 <i>Language as a 'universal medium'</i>	9
5 <i>Linguistic communication and solipsism</i>	14
6 <i>The mental and the physical</i>	17
7 <i>The idea of artificial intelligence</i>	22
8 <i>Machine behaviour and human action</i>	25
9 <i>Turing's test</i>	30
10 <i>Calculation versus mechanical symbol manipulation</i>	37
11 <i>Deceptive criticism of AI</i>	40
12 <i>Different senses of 'action'</i>	45
13 <i>Logical rules and conditions</i>	48
2 NOTIONS OF LANGUAGE AND THEORIES OF MEANING	55
1 <i>A priori theories of meaning versus naturalistic theories of language</i>	55
2 <i>Theory of meaning versus conceptual investigation</i>	60
3 <i>Confusion of the perspectives of linguistics and philosophy</i>	65
4 <i>Some philosophical prejudices</i>	70
5 <i>Languages with 'specified structure'</i>	73
6 <i>Form and content of sentences</i>	78
7 <i>The notion of literal meaning</i>	85
8 <i>Indeterminacy of the form of expressions</i>	91
9 <i>Idealization in science and philosophy</i>	97
10 <i>Sentences of a language versus formulas of a calculus</i>	101

CONTENTS

11	<i>Language-learning and rule-following</i>	109
12	<i>The dispute over realism in mathematics</i>	121
3	FORM AND CONTENT IN MATHEMATICS	131
1	<i>Word-language and mathematical content</i>	131
2	<i>The transfinite as an idealization</i>	137
3	<i>Mathematical reality</i>	142
4	<i>Potential infinity</i>	146
5	<i>The finite and the infinite</i>	151
6	<i>Form, function, and generality</i>	158
7	<i>Mathematical induction</i>	167
8	<i>Numbers and numerals</i>	177
9	<i>Languages and formal systems</i>	183
10	<i>Computability and decidability</i>	195
	<i>Notes</i>	209
	<i>Bibliography</i>	223
	<i>Index</i>	227