TABLE OF CONTENTS

Preface **7**

1 Anaximander **9**

1.1 *Apeiron* 9
1.2 Infinity of worlds 13
1.3 Origin 16
1.4 Naming the *arche* 18
1.5 Anaximenes 19

2 The Pythagoreans **21**

2.1 Harmonious universe 21
2.2 Limiters and unlimiteds 22
2.3 Numbers 25

3 Xenophanes **29**

3.1 Infinite world 29
3.2 Infinite God 31

4 Heraclitus **35**

4.1 Eternity 35

5 Parmenides and Melissus **40**

5.1 Unlimited and infinite 40
5.2 Sphere 42
5.3 Philosophical environment 43
5.4 Incorporeality of Being 46

6 Zeno's paradoxes **48**

6.1 The dichotomy 48
6.2 The Achilles 50
6.3 The flying arrow 50
6.4 The stadium 52
6.5 Plurality 54
6.6 Infinity 55

7 Empedocles **57**

7.1 Eternal cycles 57
7.2 The sphere 58

8 Anaxagoras **61**

8.1 Physics 61
8.2 The everything in everything principle 66
8.3 The infinitely large 74

9 The atomists 76

9.1 Atoms and the void 76
9.2 Infinity of worlds 79
9.3 Infinite divisibility 81

10 Plato 85

10.1 Finite world 85
10.2 Numbers 88
10.3 Infinity in the *Philebus* 91
10.4 The *Philebus* and the *Timaeus* 95
10.5 Time and eternity 96
10.6 Knowing the infinite 98

11 Aristotle 101

11.1 Defining infinity 101
11.2 Aristotle's razor 102
11.3 Infinity by addition 103
11.4 Continuum 106
11.5 Causality 110
11.6 Eternity 111
11.7 The infinite and the finite 114

12 The Old Academy 116

12.1 The unwritten doctrines 116
12.2 Speusippus 117
12.3 Xenocrates 121

13 The Early Lyceum 126

13.1 Theophrastus 126
13.2 Eudemus 129
13.3 Strato 130

14 Epicurus 133

14.1 Atoms and the void 133
14.2 Infinite worlds 139
14.3 Knowledge of the infinite 140

15 The Early Stoa 142

15.1 The void 142
15.2 Time 145
15.3 Continuum 149
15.4 *Lekta* 151
15.5 The finite and the infinite 154

16 Infinity in Greek mathematics 155

16.1 Nonnegative integers 155
16.2 Incommensurability 157
16.3 Quadrature of the circle 158
16.4 Euclid and Archimedes 162

Index of names 166

Index of ancient sources 170