

Contents

Preface

Introduction..... 1

Mirror Symmetry..... 5



Floral Kingdom..... 6

Animal Kingdom..... 9

Human Body..... 10

Architecture..... 20

Double-Headed Eagles..... 26

Music..... 28

Chirality..... 31

La Coupe du Roi..... 34

Crystals, Molecules,
and Medicine..... 35



Multiple Mirrors..... 39

Flowers and Leaves..... 40

Man-made Objects..... 46

Architecture..... 48

Snowflakes..... 62

Rotational Symmetry..... 69

Flowers..... 70

Rotating Blades..... 72

Logos..... 74

Hubcaps..... 80

Sculptures..... 82

Architecture..... 84





Shape and Movement 89



Polyhedra 103

Regular Polyhedra 103

Star Polyhedra 112

Semiregular Polyhedra 113

Buckyballs 114

Molecules and Walnuts 116



Repetitions 119

Similarity Symmetry 137

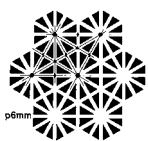
Helical Symmetry 141

Proteins and Nucleic Acids 146

Two-dimensional Spirals 150

Further Three-dimensional Spirals 152

Phyllotaxy 154



Planar Patterns 161

Façades 178

Crystals 185

Quasicrystals 194



Antisymmetry 197

Epilogue 205

Acknowledgments 207