

- 1 Introduction** *1*
- 2 Light and the Eye** *9*
 - 2.1 Optics *11*
 - 2.2 Eye and camera *25*
 - 2.3 Accommodation *37*
 - 2.4 Errors of refraction and their correction *49*
 - 2.5 Astigmatism *62*
 - 2.6 Anatomy of the eye *64*
 - 2.7 Retina *89*
 - 2.8 Blind spot *94*
 - 2.9 Visual pathways *99*
- 3 Color** *115*
 - 3.1 Color vision *117*
 - 3.2 Color mixing *127*
 - 3.3 Color blindness *136*
 - 3.4 Color zones *142*
 - 3.5 Color contrast *144*
 - 3.6 Color shadows *146*
 - 3.7 Color constancy *147*
 - 3.8 Binocular color combination *148*
 - 3.9 Subjective colors *153*
- 4 Subjective Visual Phenomena** *157*
 - 4.1 Afterimages (spectra, accidental colors) *159*
 - 4.2 Dark and light adaptation *171*

- 4.3 Purkinje shift 173
- 4.4 Pattern disappearances 175
- 4.5 Pattern distortions 176
- 4.6 Pressure figures (phosphenes) 177
- 4.7 Entoptic phenomena 182
- 4.8 Retinal blood vessels 186
- 4.9 Stroboscopic patterns 190
- 4.10 Talbot-Plateau law 191
- 4.11 Visual persistence 192
- 5 Motion 201**
 - 5.1 Motion perception 202
 - 5.2 Apparent motion (stroboscopic motion) 206
 - 5.3 Induced motion 210
 - 5.4 Motion aftereffect 212
 - 5.5 Vertigo 215
 - 5.6 Eye movements 220
 - 5.7 Eye torsion 226
 - 5.8 Outflow theory 229
 - 5.9 Binocular eye movements 231
- 6 Binocularity 235**
 - 6.1 Binocular vision 238
 - 6.2 Binocular single vision 256
 - 6.3 Binocular double vision 274
 - 6.4 Binocular contour rivalry 280
 - 6.5 Eye dominance 284
 - 6.6 Monocular compared with binocular vision 287
 - 6.7 Strabismus (squint) 293
 - 6.8 Stereoscopic vision 300
 - 6.9 Retinal disparity 304
 - 6.10 Panum's limiting case 311
- 7 Space 315**
 - 7.1 Space perception 316
 - 7.2 Erect vision 322
 - 7.3 Visual acuity 325
 - 7.4 Weber's law 330

Contents

7.5	Monocular visual direction	331
7.6	Binocular visual direction	334
7.7	Distinct vision	337
7.8	Peripheral vision	340
7.9	Recovery from cataract removal	343
7.10	Space constancy	349
7.11	Cues to distance	354
7.12	Perspective	359
8	Illusions	367
8.1	Visual illusions	368
8.2	Brightness contrast	373
8.3	Size illusions	375
8.4	Moon illusion	377
8.5	Motion illusions	383
8.6	Orientation illusions	386
8.7	Depth reversals	387
9	Conclusion	391

Bibliography 399

Name Index 431

Subject Index 439