
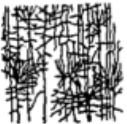



Contents

	Series Foreword	xi
	Preface	xiii
	1. The Big Window: The Science of Vision	1
	Seeing with Brain and Eye: The Dynamic Properties of Vision	2
	The Physical Side of Vision	4
	The Eye	12
	2. The Brain and Vision	27
	The Brain	27
	From the Eye to the Brain	34
	A Tale of Two Hemispheres	39
	A Model of Visual Cognition and the Brain	42
	Perception and Knowledge	45
	The Evolution of Eye and Brain	46
	3. Figure and Form Perception	51
	The <i>Ganzfeld</i>	52
	Gratings	53
	Mach Bands and Lateral Inhibition	61



4. **Visual Cognition** 73

Visual Cognition 75

Fundamental Forms 80

Perceptual Organization and Gestalt Psychology 87



5. **Context, Cognition, and Art** 101

Mona Lisa: A Case Study 102

Physical Context 104

Top-Down Processing: Looking at the World
with a Thousand Hypotheses 110

Visual Dissonance 122



6. **The Eyes Have It: Eye Movements and
the Perception of Art** 129

Foveal Vision and the Necessity of
Eye Movements 129

Eye-Tracking Studies 134

What the Brain Tells the Eye (and Vice Versa) 136

Scanpaths and the Cognition of Art 140

Expert Viewing 143

Centralized Viewing 149

Art and Eye Movements 150

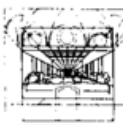


7. **A Truly Marvelous Feast: Visual
Perspective** 157

Seeing a 3-D World with a 2-D Eye 157

Principles of Depth Perception: Where Is It? 161

Digesting Perspective: Illusions and Constancy 176

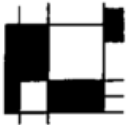


8. **Perspective and the History of Art** 189

The Technology of Perspective 189

Prehistoric Art and Perspective 191

Egyptian Art: In Perspective 194

	Greek and Roman Art: Gaining Perspective	199
	Asian Art	202
	The Renaissance: Visual “Truth”	206
	Impressionism	220
	Modern Art	224
	9. Connections: Canonic Representations, Memory, and the Cognition of Art	231
	Representational Art—Abstract Art	231
	Canonic Representations	236
	Memory and the Comprehension of Art	249
	Connections: In Mind and Art	257
	Notes	271
	References	277
	Illustration Credits	283
	Index	289