CONTENTS

Authors' Notes and Acknowledgements	v
Introduction	1
I.1 Objectives of this Book I.2 The "Seeing Eye" and the "Knowing Eye"	1 4
1 Image and Computer	13
1.1 A Short History 1.2 The 'Computer's Eye 1.3 A Beetle and an Ant-Hill 1.4 Features and Models	13 24 28 39
2 How Humans See the World	47
2.1 The Eye and the Brain2.2 The Level of Preattention2.3 Right and Left Vision2.4 Images and Words	47 52 60 70
3 Conversations with a Computer	79
3.1 From a Point to a Region 3.2 From a Region to an Object 3.3 From an Object to a Situation	79 87 96

viii Contents

4	An Apologia for Vision	107
	4.1 The Evolution of Vision4.2 Vision and Thinking4.3 Recollection of the Future4.4 Cognition through Vision	107 117 125 136
5	Creating a New World	143
	5.1 From Elements to the System5.2 Back to Nature5.3 Who Do We Think They Are?	143 154 163
Co	nclusions	171
Pla	tes	173
Re	ferences	193
Lis	t of Illustrations	19′
In	dex	20