Contents

Preface		**ix**
Chapter 1	**A CALCULATING RISK**	**3**
	Inventing the First Microprocessors	
	Busicom and Intel	*3*
	Hoff Makes his Case	*7*
	Faggin Ascendent	*9*
	The 4000 Family	*10*
	Finding a Market	*15*
	The 8080	*18*
	Giving Credit	*19*
Chapter 2	**A REVOLUTION IN MINIATURE**	**23**
	The Importance of the Microprocessor	
	The Pervasiveness of the Microprocessor	*28*
Chapter 3	**FIRE, WATER, EARTH AND AIR**	**37**
	Fabricating the Microprocessor	
	Crystals	*38*
	The Blueprint of a Revolution	*42*
	The Swinging Gate	*47*
	Going Flat	*56*
	A World Apart	*59*
	Layers of Meaning	*61*
	Shedding Light	*69*
	Picking the Winners	*74*
	Legging it Out	*77*
	Final Exam	*81*

Chapter 4	**THE CITIES OF THE PLANAR**	**87**
	How the Microprocessor Works	
	Touring the Silicon City	*92*
	The Silicon Metronome	*99*
	Counting Bits	*100*
	Exchanging Notes	*104*
	Simple Minds	*105*
	Making Sense	*111*
	Taking Control	*113*
	Getting Help	*116*
	Going Green	*117*
	Relating to a Noisy World	*120*
	A Story of People	*121*
Chapter 5	**HISTORY I: BEGINNINGS**	**125**
	The First Decade	
	Making the Cut	*138*
Chapter 6	**HISTORY II: THE PC ERA**	**165**
	The Second Decade	
	Abiding by the Law	*168*
	Off the Beaten Path	*183*
	An Unexpected Threat	*186*
	Spinning out Threads	*195*
Chapter 7	**HISTORY III: BREAK-OUT**	**203**
	The Third Decade	
	A Forgotten Player Returns	*206*
	A Peripheral Revolution	*208*
	Blue Chips	*212*
	Courting the Microprocessor	*215*
	An Inside Game	*229*
	Taking Stock	*231*
	A Bitter Bug	*236*

Order in the Court 243
Towards the Millenium 245

Chapter 8 **THE FUTURE: DREAMS OF LIGHT** **251**
The Microprocessor in the 21st Century
Substrate 254
Other Substrates 256
Production 259
Software 262
The Burden of the Past 265
Green Thoughts 267
Architecture 269
Organization 276
Beyond Semiconductors 280

Footnotes **289**

Glossary **301**

Index **319**