CONTENTS

	Prologue ix	
(1)	The Liberation of Algebra	1
(2)	The Arrival of Calculus	18
(3)	Ideas for Vectors	42
(4)	Understanding Space (and Storage)	69
(5)	A Surprising New Player and a Very Slow Reception	101
(6)	Tait and Maxwell: Hatching the Electromagnetic Vector Field	118
(7)	The Slow Journey from Quaternions to Vectors	146
(8)	Vector Analysis at Last—and a "War" over Quaternions	168
(9)	From Space to Space-Time: A New Twist for Vectors	188

(10)	Curving Spaces and Invariant Distances:	
	On the Way to Tensors	217
(11)	Inventing Tensors—and Why They Matter	240
(12)	Everything Comes Together: Tensors and	
	the General Theory of Relativity	274
(13)	What Happened Next	304
	Epilogue 320	

TIMELINE 327

ACKNOWLEDGMENTS 339

NOTES 343

INDEX 405