

CONTENTS

Preface	vii
----------------	-----

SECTION I: THE DYNAMIC EARTH

Introduction	2
1 The Continental Crust	5
<i>B. Clark Burchfiel</i>	
2 The Oceanic Crust	22
<i>Jean Francheteau</i>	
3 The Earth's Hot Spots	41
<i>Gregory E. Vink, W. Jason Morgan and Peter R. Vogt</i>	
4 Seismic Tomography	54
<i>Don L. Anderson and Adam M. Dziewonski</i>	

SECTION II: PLATES IN ACTION

Introduction	66
5 How Continents Break Up	67
<i>Vincent Courtillot and Gregory E. Vink</i>	
6 Oceanic Fracture Zones	80
<i>Enrico Bonatti and Kathleen Crane</i>	

SECTION III: MAKING MOUNTAINS

Introduction	96
7 Terranes	98
<i>David G. Howell</i>	
8 Ophiolites	112
<i>Ian G. Gass</i>	
9 The Structure of Mountain Ranges	125
<i>Peter Molnar</i>	
10 The Southern Appalachians and the Growth of Continents	139
<i>Frederick A. Cook, Larry D. Brown and Jack E. Oliver</i>	
11 The Growth of Western North America	156
<i>David L. Jones, Allan Cox, Peter Coney and Myrl Beck</i>	
12 The Supercontinent Cycle	177
<i>R. Damian Nance, Thomas R. Worsley and Judith B. Moody</i>	
The Authors	189
Bibliographies	193
Sources of the Photographs	197
Index	199

Note on cross-references to SCIENTIFIC AMERICAN articles: Articles included in this book are referred to by chapter number and title; articles not included in this book but available as Offprints are referred to by title, date of publication, and Offprint number; articles not in this book and not available as Offprints are referred to by title and date of publication.