

## Contents

	Page
Preface: GASS, I. G., LIPPARD, S. J. & SHELTON, A. W.....	1
I. NATURE AND FORMATION OF OCEANIC LITHOSPHERE	
MAGMA CHAMBERS: PRODUCTS AND PROCESSES	
ORCUTT, J. A., MCCLAIN, J. S. & BURNETT, M. Evolution of the ocean crust: results from recent seismic experiments .....	7
FISK, M. R. Depths and temperatures of mid-ocean-ridge magma chambers and the composition of their source magmas .....	17
FLOWER, M. F. J. Spreading-rate parameters in ocean crust: analogue for ophiolite? .....	25
SMEWING, J. D., CHRISTENSEN, N. I., BARTHOLOMEW, I. D. & BROWNING, P. The structure of the oceanic upper mantle and lower crust as deduced from the northern section of the Oman ophiolite .....	41
GREGORY, R. T. Melt percolation beneath a spreading ridge: evidence from the Semail peridotite, Oman .....	55
PALLISTER, J. S. Parent magmas of the Semail ophiolite, Oman .....	63
BROWNING, P. Cryptic variation within the Cumulate Sequence of the Oman ophiolite: magma chamber depth and petrological implications .....	71
ELTHON, D., CASEY, J. F. & KOMOR, S. Cryptic mineral-chemistry variations in a detailed traverse through the cumulate ultramafic rocks of the North Arm Mountain massif of the Bay of Islands ophiolite, Newfoundland .....	83
FRACTURE ZONES	
WHITE, R. S. Atlantic oceanic crust: seismic structure of a slow-spreading ridge .....	101
CYAGOR II GROUP. Intraoceanic tectonism on the Gorrings Bank: observations by submersible .....	113
HONNOREZ, J., MÉVEL, C. & MONTIGNY, R. Occurrence and significance of gneissic amphibolites in the Vema fracture zone, equatorial Mid-Atlantic Ridge .....	121
KARSON, J. A. Variations in structure and petrology in the Coastal Complex, Newfoundland: anatomy of an oceanic fracture zone .....	131
MANTLE STRUCTURES	
NICOLAS, A. & RABINOWICZ, M. Mantle flow pattern at oceanic spreading centres: relation with ophiolitic and oceanic structures .....	147
LAVAS AND SEDIMENTS	
MALPAS, J. & LANGDON, G. Petrology of the Upper Pillow Lava suite, Troodos ophiolite, Cyprus .....	155
BOYLE, J. F. & ROBERTSON, A. H. F. Evolving metallogensis at the Troodos spreading axis .....	169
ISOTOPE STUDIES AND METAMORPHISM	
ELTHON, D., LAWRENCE, J. R., HANSON, R. E. & STERN, C. Modelling of oxygen-isotope data from the Sarmiento ophiolite complex, Chile .....	185
STAKES, D. S., TAYLOR JR, H. P. & FISHER, R. L. Oxygen-isotope and geochemical characterization of hydrothermal alteration in ophiolite complexes and modern oceanic crust .....	199
THIRLWALL, M. F. & BLUCK, B. J. Sr-Nd isotope and chemical evidence that the Ballantrae 'ophiolite', SW Scotland, is polygenetic .....	215
MENZIES, M. A. Chemical and isotopic heterogeneities in orogenic and ophiolitic peridotites .....	231
AHMED, Z. & HALL, A. Petrology and mineralization of the Sakhakot-Oila ophiolite.	

## II. EMPLACEMENT (OBDUCTION) OF OPHIOLITES

## OPHIOLITE EMPLACEMENT AND OBDUCTION

SPRAY, J. G. Possible causes of upper mantle decoupling and ophiolite displacement .....	255
CASEY, J. F. & DEWEY, J. F. Initiation of subduction zones along transform and accreting plate boundaries, triple-junction evolution, and forearc spreading centres—implications for ophiolitic geology and obduction .....	269
OGAWA, Y. & NAKA, J. Emplacement of ophiolitic rocks in forearc areas: examples from central Japan and Izu–Mariana–Yap island arc system .....	291
SEARLE, M. P. & STEVENS, R. K. Obduction processes in ancient, modern and future ophiolites .....	303
WOODCOCK, N. H. & ROBERTSON, A. H. F. The structural variety in Tethyan ophiolite terrains .....	321

## REGIONAL STUDIES

COLLEY, H. An ophiolite suite in Fiji? .....	333
DAVIES, H. L. & JAQUES, A. L. Emplacement of ophiolite in Papua New Guinea .....	341
MILSOM, J. The gravity field of the Marum ophiolite complex, Papua New Guinea .....	351
COLEMAN, R. G. Ophiolites and the tectonic evolution of the Arabian Peninsula .....	359
WADGE, G., DRAPER, G. & LEWIS, J. F. Ophiolites of the northern Caribbean: A reappraisal of their roles in the evolution of the Caribbean plate boundary .....	367
STURT, B. A., ROBERTS, D. & FURNES, H. A conspectus of Scandinavian Caledonian ophiolites .....	381
HALL, R. Ophiolites: figments of oceanic lithosphere? .....	393
ROTHERY, D. A. The role of Landsat Multispectral Scanner (MSS) imagery in mapping the Oman ophiolite .....	405