

TABLE OF CONTENTS

	Page
INTRODUCTION	1
Chapter	
I. ORTHOGONALITY AND MUTUAL ORTHOGONALITY IN BANACH SPACES	5
Preliminaries	5
Orthogonality	5
Mutual Orthogonality	9
Basic Sequences and Orthogonality	11
F-Orthogonal Spaces and the Moduli of Orthogonality	16
II. ORTHOGONALITY AND THE GEOMETRY OF BANACH SPACES	22
Smoothness and Differentiability of Norms	22
The Semi-Inner Product and the G_α Mapping	27
Orthogonality in G_α Spaces	29
III. MUTUALLY ORTHOGONAL RANDOM VARIABLES	33
Preliminaries	33
Lebesgue-Bochner Function Spaces	35
Orthogonality and Independence in $L_p(X, \Pr)$ Spaces	37
Martingales and Orthogonal Random Variables	39
The Geometry of Lebesgue-Bochner Function Spaces	44
Series of Mutually Orthogonal Random Variables	47
A Generalization of the Classical Rademacher-Mensov Strong Law	54

IV. PARTIAL RESULTS AND FURTHER QUESTIONS	57
Super-reflexivity	57
Further Questions	61
BIBLIOGRAPHY	64