

CONTENTS

Preface	ix
Dedication	xi

Part 1: Knot Theory

Introduction	3
Link groups (1954)	7
Isotopy of links (1957)	27
Most knots are wild (1964)	55
Singularities of 2-spheres in 4-space and cobordism of knots (with R. H. Fox, 1966)	59
Infinite cyclic coverings (1968)	71

Part 2: Free Actions on Spheres

Introduction	93
Groups which act on S^n without fixed points (1957)	97
Some curious involutions of spheres (with M. W. Hirsch, 1964) . . .	105
Some free actions of cyclic groups on spheres (1964)	111

Part 3: Torsion

Introduction	119
Two complexes which are homeomorphic but combinatorially distinct (1961)	123
A duality theorem for Reidemeister torsion (1962)	139
Whitehead torsion (1966)	151
Uses of the fundamental group (1968)	221
Torsion et type simple d'homotopie (with O. Burlet, 1970)	227

CONTENTS

Part 4: Three-Dimensional Manifolds

Introduction	235
A unique decomposition theorem for 3-manifolds (1962)	237
On the 3-dimensional Brieskorn manifolds $M(p, q, r)$ (1975)	245
Characteristic numbers of 3-manifolds (with W. Thurston, 1977)	297