

Contents

Preface	vii
Part I Character Theory for the Odd Order Theorem	
Introduction	1
Notation	3
1. Preliminary Results from Character Theory	5
2. The Dade Isometry	10
3. TI-Subsets with Cyclic Normalizers	15
4. The Dade Isometry for a Certain Type of Subgroup	21
5. Coherence	25
6. Some Coherence Theorems	30
7. Non-existence of a Certain Type of Group of Odd Order	38
8. Structure of a Minimal Simple Group of Odd Order	44
9. On the Maximal Subgroups of G of Types II, III and IV	50
10. Maximal Subgroups of Types III, IV and V	58
11. Maximal Subgroups of Types III and IV	64
12. Maximal Subgroups of Type I	69
13. The Subgroups S and T	75
14. Non-existence of G	87
Notes	93
References	95

Part II A Theorem of Suzuki

Introduction	97
Notation	99
Chapter I. General Properties of G	100
1. Consequences of Hypothesis (A1)	100
2. The Structure of Q and of K	103
3. Application of the Induction Hypothesis	104
Chapter II. The First Case	108
Chapter III. The Structure of H	115
1. The Structure of Q	115
2. The Case in which st has Order 5	118
3. The Action of KW on S	119
Chapter IV. Characterization of $\text{PSU}(3, q)$	122
1. The Mappings f, g and h	122
2. Preliminary Calculation	123
3. Determination of f	129
4. The Case $V \neq W$	132
Appendix I. A Special Case of a Theorem of Huppert	135
Appendix II. On Near-Fields	137
Appendix III. On Suzuki 2-Groups	139
Appendix IV. The Feit-Sibley Theorem	144
References	151
Index to Parts I and II	153