

known groups are incidentally developed, and simple isomorphisms between various groups are investigated. The chapter closes with a determination of the groups which can be represented on a prime number p of letters and which involve exactly $p + 1$ subgroups of order p .

The last chapter starts with a proof of the important theorem due to Burnside, which states that a transitive group on p letters must be multiply transitive whenever it involves more than one subgroup of order p . The proof is based upon the one given by I. Schur in the *Jahresbericht der Deutschen Mathematiker-Vereinigung*, volume 17 (1908), page 171. This is followed by a study of the interesting theorems relating to the multiply transitive groups of degree $p + \alpha$ which involve subgroups of order p . The latter part of the chapter is devoted to a study of the well known multiply transitive groups due to Mathieu.

In the preface we are told that the present volume is devoted to the substitutions which may be called natural, that is, to the substitutions on a finite number of objects whose order is simple. The author enters only partly into the field of linear modular groups. A more profound study of these groups, and a determination of systems of solvable groups, constitute the subjects of a proposed later volume by the same author. It is to be hoped that this later volume will contain at least a subject index, including the material of the present volume and of the earlier volume on *Groupes abstraits*. Such an index would make these volumes much more valuable for reference. A general author index would also render useful service.

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WILSON'S ADVANCED CALCULUS.

Advanced Calculus: A Text upon Select Parts of Differential Calculus, Differential Equations, Integral Calculus, Theory of Functions, with Numerous Exercises. By EDWIN BIDWELL WILSON. Boston, Ginn and Company, 1912. ix+566 pp.

SOME years ago Professor Asaph Hall, after reading carefully Poincaré's *Mécanique Céleste*, which had just been published, wrote to its distinguished author and took him severely to task because he had devoted his splendid mathematical knowledge