

THE DEVELOPMENT OF THE THEORY OF p -GROUPS

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1. Introduction. As usual, all groups considered here are abelian. The request initially presented to me by the kind invitation of the conference organizers was to give an account of the development, especially in the United States, of the theory of torsion and mixed groups. My interpretation of this was that I should include everything except torsion-free groups. A rough draft of the first part of this project dealing with torsion groups convinced me that it would be an enormous challenge, for even a more talented writer, to accomplish this within the pages allocated without diluting both parts beyond tasteful limits. Therefore, I decided to restrict this paper to torsion groups and consequently to p -groups, with the hope that the mixed case could be reserved for a later time.

In a further attempt to rein in the scope to manageable limits, I have essentially restricted the account given here of the development of p -groups to the period beginning with the appearance of László Fuchs' famous book [9], which was a catalyst for the tremendous advancement in abelian groups that followed. Although this survey begins after the time that Reinhold Baer was a U.S. resident, I would be remiss if I did not mention Baer's contributions to the subject including his academic prodigies (of which I am one of a large group; my thesis advisor was Baer's student at the University of Illinois). Likewise, I am compelled to mention at the outset the tremendous influence that the approach used by Leon Zippin [64] in his proof of Ulm's theorem ultimately had on my own techniques. Indeed, virtually all who have joined the quest for the classification of p -groups have to some extent followed Zippin's approach.

The organization of what is to follow is intended to be basically chronological. However, the formal organization is by topic, so the chronology often overlaps and occasionally may be completely reversed. Unless otherwise stated, all groups henceforth are p -groups, although

Received by the editors on August 7, 2001, and in revised form on October 15, 2001.