Comments

The early works of Iwasawa before around 1950 are mainly devoted to group theory in a wider sense. Groups (finite or infinite) with various additional structures or satisfying certain specific conditions are studied, often ending up with a complete classification. We give brief comments on some of them.

In [3] the structure of a finite group whose lattice of all subgroups satisfies a lattice-theoretic condition is thoroughly studied. (*E. g.* when the lattice is modular the group is called an "M-group".) This was a starting point of early works of M. Suzuki. The structure theorem of finite M-groups is generalized in [6] to the case of infinite M-groups under an assumption that a group under consideration is finite if it satisfies chain conditions. (Later it appeared that this assumption was not satisfied in general.)

A method employed in [1] in order to prove a finite group to be solvable has proved to be very powerful and later, with a generalization by N. Ito, found many applications. (*E. g.* it was used in [3].) [2] is a very short but important paper, in which a new method to prove the simplicity of $PSL_n(K)$ (except the case $n=2$, $K=\boldsymbol{F}_2$, $\boldsymbol{F}_3$) is given. The method depending on the group action on the flag space seems to be suggesting the later development of the theory of BN-pairs.

In [7] Iwasawa considers conditionally complete lattice groups. He proves a conjecture of G. Birkhoff that such a group is always abelian, and gives a complete structure theorem. In [17] he determines the structure of linearly ordered groups, giving a standard construction for all such groups.

In [5] and [10] (in Japanese), of which [11] is a short survey, the correspondences between (continuous) representations of locally compact groups and their suitably defined "group rings" are discussed. [12] gives a basic theory of nilpotent topological groups. (These may be regarded as a preparation for [21].) [18] and [22] deal also with topological groups. In [16], establishing an analogue in the theory of Lie algebras of Artin's splitting groups, he gives a purely algebraic proof of the faithful representability of any finite-dimensional Lie algebra over an arbitrary field, generalizing a theorem of Ado and Cartan in the classical case.

[13]–[15] are concerned with algebraic geometry. In [13] the classical Bezout theorem on intersection numbers is generalized to the