MEETINGS OF THE SEMINAR "ALGEBRA AND LOGIC"

228th Meeting, February 17, 1970:
M. A. Taitslin, "On the Theory of Elementary Theories."

229th Meeting, February 24, 1970:
Yu. M. Gorchakov (Krasnoyarsk), "Conjugacy in Locally Normal Groups."

Andr. A. Vinogradov (Ivanovo), "Nonaxiomatizability of Lattice-Orderable Groups" (presented by Yu. I. Merzlyakov).

The result indicated in the title is proved by the construction of elementarily equivalent groups G_1 and G_2, the first of which is lattice-orderable and the second is not. Specifically, let ZQ be the extension of the additive group of rational numbers Q by the infinite cyclic group Z acting on Q such as take the opposite element. Then $G_1 = ZQ \times Z \times Q$, $G_2 = ZQ \times Z$.

230th Meeting, March 10, 1970:
V. I. Kuz'minov and I. A. Shvedov, "On the Completions of Abelian Groups."

V. N. Remeslennikov, "Finite Approximability with Respect to Conjugacy for Groups."

231st Meeting, March 17, 1970:
S. D. Denisov, "On Recursively Enumerable m-Degrees."

S. D. Denisov and I. A. Lavrov, "On Completely-Enumerable Sets."

Yu. E. Vapné, "Criterion of the Representability of a Direct Wreath of Groups by Matrices over a Field."

THEOREM 1. Let A and B be nontrivial groups isomorphically representable by matrices over a field of characteristic 0. The direct wreath $W = A \wr B$ is isomorphically representable by matrices over a field of characteristic 0 if and only if one of the following conditions holds: 1) B is a finite group; 2) B is a finite extension of an Abelian group without torsion, and A is an Abelian group without torsion.

THEOREM 2. Let A and B be nontrivial groups isomorphically representable by matrices over a field of characteristic $p > 0$. The direct wreath $W = A \wr B$ is isomorphically representable by matrices over a field of characteristic p if and only if one of the following conditions holds: 1) B is a finite group; 2) B is a finite extension of an Abelian group without torsion, and A is an Abelian p-group of finite period.

These theorems were proved earlier by the author under the added assumption that the active group B is almost solvable.

V. A. Roman'kov, "On Free Groups in a Variety of Groups of Period 4."

Problem 3.8 from the "Lecture Notes" obtains a negative solution.

Translated from Algebra i Logika, Vol. 9, No. 2, pp. 249-250, March-April, 1970.