1040-20-231 **Pavel Shumyatsky** (pavel@unb.br), Brasilia, Brazil, and **Jhone Caldeira Silva*** (jhone@mat.unb.br), Brasilia, Brazil. *A variety of groups.* Preliminary report.

The solution by Zel'manov of the Restricted Burnside Problem had a profound impact on development of group theory. The methods involved can be very effective in treatment of other problems and interesting varieties have been discovered. It is well-known that the solution of the RBP is equivalent to the statements: 1 - The class of locally finite groups of exponent n is a variety. 2 - The class of locally nilpotent groups of exponent n is a variety. The equivalence of (1) and (2) follows from the famous Hall-Higman Reduction Theorem.

We denote by $w(G)$ the verbal subgroup generated by the w-values. The following questions was raised.

Problem 3: Let $n \geq 1$ and w a group-word. Consider the class of groups G satisfying the identity $w^n = 1$ and having $w(G)$ locally finite. Is that a variety?

Problem 4: Let $n \geq 1$ and w a group-word. Consider the class of groups G satisfying the identity $w^n = 1$ and having $w(G)$ locally nilpotent. Is that a variety?

According to the solution of the RBP the answer to the problems is positive if $w(x) = x$. Actually the answer is positive whenever w is any non-commutator word.

This note deals with Problem (3) in the case that w is a product of several multilinear commutators. (Received February 27, 2008)