1086-20-1701   **Benjamin Fine*** (`fine@fairfield.edu`), **Anthony Gaglione**, **Gerhard Rosenberger** and **Dennis Spellman**. *Some Consequences of the Solution to the Tarksi Problems.* Preliminary report.

From the positive solution to the Tarksi problems by Kharlampovich and Myasnikov and independently Sela it follows that every first order theorem in a nonabelian free group is true in every elementary free group. An elementary free group is a group that shares the first order theory of the class of nonabelian free groups. The class of elementary free groups extends beyond the class of free groups and in particular includes the class orientable surface groups of genus $g \geq 2$. As a consequence Magnus' theorem concerning the normal closures of elements in free groups is true in surface groups. This was proved directly by J. Howie and independently by O. Bogopolski in a quite difficult manner. This type of result opens up several different types of questions. The first is which additional nontrivial free group results are true in surface groups but difficult to obtain directly. Secondly what first order properties of nonabelian free groups are true beyond the class of elementary free groups. (Received September 24, 2012)