1143-08-339 **Gilbert Baumslag** and **Benjamin Fine*** (fine@fairfield.edu), Fairfield University, Department of Mathematics, Fairfield, CT 06840, and **Martin Kreuzer** and **Gerhard Rosenberger**. *Speculation on Further Uses of Group Theory in Cryptographic Settings.* Preliminary report.

Group theory, specifically the combinatorial group theory of finitely presented groups has been utilized effectively cryptology. Several new public key cryptosystems have been devloped and this has ushered a new area in cryptogrpahy called braid group cryptography. The basic idea is that a finitely presented group can be described by a finite amount of data. This provides techniques to enormously compress and hide information. This suggests that we have only barely scraped the surface of using finitely presented groups for data control, security and storage. In this talk which is speculative we suggest additional uses of group theory, some complicated and some simple, For example, we describe a far-reaching extension for controlling access to files which could be relevant in medical records. (Received August 18, 2018)