1014-20-1163 **Chiru Bhattacharya*** (cbhattacharya@rmc.edu), Department of Mathematics, Randolph-Macon College, Ashland, VA 23005. *An analog of McCarthy's result.*

The canonical homomorphism from F_n (free group on n letters) to $F_n/[F_n, F_n]$ induces a homomorphism from Aut F_n to Aut $(F_n/[F_n, F_n]) \cong GL_n(\mathbb{Z})$. This map is surjective and gives rise to an exact sequence that is analogous to another exact sequence described below.

If S is a connected closed orientable surface of genus $g \geqslant 3$ and $\mathcal{M}_S$ is the mapping class group of S, one can view $\mathcal{M}_S$ algebraically as the group of outer automorphisms of the fundamental group Π_g of S. Also, $\Pi_g^{\mathrm{ab}} \simeq \mathbb{Z}^{2g}$, and the action of $\mathcal{M}_S$ on Π_g^{ab} induces a homomorphism $\mathcal{M}_S \longrightarrow GL_{2g}(\mathbb{Z})$, the image of which is the symplectic group $Sp_{2g}(\mathbb{Z})$. This gives rise to an exact sequence.

J.D.McCarthy showed that for any subgroup of finite index $H \subset \mathcal{M}_S$ containing the Torelli subgroup $\mathcal{T}_S$, the group $H^1(H)$ is trivial.

Using the analogy of the exact sequences I will present a theorem that gives a direct analog of McCarthy's result for Aut F_n. (Received September 27, 2005)