998-57-427 **Tim D. Cochran*** (cochran@math.rice.edu) and **Shelly Harvey** (sharvey@math.mit.edu).
Homology and Derived Series of Groups. Preliminary report.

In 1964 John Stallings established an important relationship between the low dimensional homology of a group and its lower central series. This result has been very important in certain areas of topology. It gives a criterion for determining that a set of elements of a group generates a free subgroup. It shows that Milnor's invariants of links are actually unchanged under concordance.

We establish a similar relationship for the derived series, using a new version of the derived series due to the second author. There are applications to homology equivalence of spaces, homology cobordism of manifolds and link concordance. (Received March 08, 2004)