1100-53-358 **Jeffrey M Lee***, Department of Mathematics and Statistics, Texas Tech University, Mail stop 1042, Lubbock, TX 79409, and **Lance Drager**, Lubbock, TX 79409. *Back to basics on bundles with structure group.* Preliminary report.

The speaker will discuss a common misunderstanding in the literature concerning the coordinate bundle definition of a G-bundle or G-bundle structure on a fiber bundle. The crucial point is the difference between strict equivalence and equivalence in terms of cohomologous cocycles. The difference is analogous to the distinction between atlases on manifolds that define the same smooth structure as opposed to diffeomorphic smooth structures. Several simple examples are given that make it clear that the two notions of equivalence for coordinate bundle are not the same and that only the first is appropriate for the definition of the primary notion of G-bundle structure. We show how choosing the wrong definitions leads to conflict with other well accepted notions. A discussion of the role of a non-effective group action in bundle theory is also addressed and it is shown that there are nontrivial issues that arise contrary to what seems to be implied in the literature. (Received February 10, 2014)