principal bundle action of K on E? (Thus G would act on E as a group of principal bundle maps.).

The version of theorem 1 which holds for the above principal bundle lifting problem is the recently proved Hattori-Yoshida theorem which holds when G is a compact Lie group, X is locally compact, and the group K is a torus T, [11]. In that situation, a principal bundle lifting exists if an only if the principal T-bundle is the pullback of a principal T-bundle over X_G by the inclusion $X \xrightarrow{i} X_G$.

The Hattori-Yoshida theorem stated above does not follow from theorem 1. In fact, it provided the inspiration for the author to discover theorem 1, for it seemed reasonable that the Hattori-Yoshida theorem was a special case of a very general solution for lifting problems.

In view of the above corollary and the Hattori-Yoshida theorem and some other evidence which will be revealed later, it began to appear that theorem 1 would have analogues for the lifting and principal bundle lifting problems. This is not the case, however, and we shall present counter examples essentially given by Glen Bredon.

Next we shall turn to the exploitation of theorem 1 and its analogues for special kinds of actions. Assume that $\hat{\omega}: G \times X \to X$ is our action and the $\omega: G \to X$ is evaluation at a base point of X. If G is a connected group, we shall