There still remains the possibility that a Hattori-Yoshida theorem is true for a broad class of lifting problems, as opposed to principal bundle lifting problems. However in this case also there is a counter example is based on the method of the previous counterexample and upon the following lemma which relates the lifting problem to the principal bundle lifting problem.

Lemma 8: _If the fibre bundle_ $F \to E \to X$ _admits a lifting of_ G, _then the associated principal_ $\mathcal{H}(F)$-_bundle admits a principal bundle lifting_.

By $\mathcal{H}(F)$ we mean the group of homeomorphisms of the fibre F. If $E \xrightarrow{p} X$ is an oriented bundle, in the sense that $\pi_1(X)$ acts trivially on the components of $\mathcal{H}(F)$, then $\mathcal{H}(F)$ can be taken to be the identity component of itself.

Proof: Let $E^{(F)}$ denote the space of homeomorphisms of F onto fibres of E. Then $\mathcal{H}(F) \to E^{(F)} \to X$ is the associated principal bundle to $E \to X$. The lifting of G on E gives rise to a principal bundle lifting of G on $E^{(F)}$ by $g: E \to E$ inducing $g_{\#}: E^{(F)} \to E^{(F)}$ where $g_{\#}(f) = g \circ f$ where $f \in E^{(F)}$.

Hence to find a counterexample to a Hattori-Yoshida type theorem for fibre bundles, we must find a space $F = G/H$ and