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Given a simply-connected manifold M of dimension at least 3, a construction, and computation of analogues of k -stranded pure braid groups for these manifolds, $P_k(M)$, will be given.

Theorem 1 *There are groups $P_k(M)$ which are natural for embeddings of M with the following properties.*

1. *The groups $P_k(M)$ are filtered (analogously to, but different than the descending central series).*
2. *If M is complex n -space, C^n , then the group $P_k(C^n)$ in characteristic zero is an iterated semi-direct product of the Malcev completion of free groups. Furthermore, the Lie algebra associated to the filtration of this group is isomorphic to that obtained from the descending central series for Artin’s pure k -stranded braid group (and thus satisfies the infinitesimal braid relations). These groups over the integers depend on the dimension n .*
3. *If M has a Euclidean factor, then the Lie algebra associated to the filtration of $P_k(M)$ is a twisted extension of the previous Lie algebra by the k -fold sum of the module of primitive elements in the homology of the loop space of M , ΩM .*

Further examples given by Lie groups together with the definition of “braidable manifolds” will also be given. (Received September 30, 2000)