There is a jungle full of exotic phenomena associated with four-dimensional manifolds. In this talk, we will describe the large difference between the homotopy of the diffeomorphism group and the homotopy of the homeomorphism group that appears for many four-manifolds. Analogous behavior is found in spaces of embeddings. Such results may lead to a better understanding of configurations of surfaces in four-manifolds. (Received January 02, 2020)